

Global Challenges Report

Patent-based Analysis of the World Health Organization's 2013 Model List of Essential Medicines

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Abstract

The objective of this report is to identify which of the 375 items on the 2013 Model List of Essential Medicines (MLEM) of the World Health Organization (WHO) (18th edition) are patented and where. The field work was undertaken in 2014/15. It identifies 20 of the 375 items on the MLEM as likely to be under patent protection in some developing countries. There was great variability in the nature of the patent protection on these 20 medicines (7 of which had active compound patents) as of 2015. This was reflected in varying percentages of developing countries covered by a given portfolio patent amongst the 20 medicines, ranging from less than 1 per cent to 44 per cent; the median was 15 per cent. Patterns were more apparent when the 20 medicines were considered collectively. Where patents were filed, this appeared to be more common in countries where there was market and manufacturing opportunity, namely, middle-income nations with larger populations, higher health spending per capita and pharmaceutical manufacturing capacity. These observed patterns, and the number of medicines likely to be under patent, were similar to those of previous MLEM patent studies. Given the relative scarcity of patented medicines appearing on the 2013 MLEM and of those patents typically being filed in developing countries (15 per cent), we conclude that targeted and fit-for-purpose solutions, such as voluntary licensing agreements for patented medicines being added to the MLEM, should be considered. We also discuss patent transparency as a more fundamental, yet promising policy intervention.

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Section 1:

Executive Summary

The objective of this report commissioned by the World Intellectual Property Organization (WIPO) is to identify which of the 375 items on the 2013 Model List of Essential Medicines (MLEM) of the World Health Organization (WHO) (18th edition) (WHO 2013) are patented and where. The fieldwork was undertaken in 2014/15. This is only the second patent study of an entire MLEM list to have been verified and corrected by the concerned global medicine suppliers; given its geographic reach of 137 countries, it is also the largest.

The Doha Declaration on the TRIPS Agreement and Public Health (WTO 2001) (the Doha Declaration) of the World Trade Organization (WTO) recognizes the public health problems of many developing and least-developed countries. From a health system perspective, there are many determinants of access to medicines, including medicine prices, which may be elevated when patents and other intellectual property (IP) are protected (Bigdeli et al. 2013). However, to accurately understand the extent to which patents shape a medicine's price, there must be accurate information on the product's patent status, meaning whether a medicine is protected by a patent or patents in a given country (UNDP 2012; Milani and Oh 2011). Without that kind of information, the question of whether affordable medicine access and the patent system are in conflict cannot be addressed directly. Simply put, it is only where patents for a given medicine exist, either locally (e.g., the consuming or importing country) or in the manufacturer's country (e.g., the supplying or exporting country), that patents can lawfully impede access.

This study was completed in three phases: identifying which medicines from the 2013 MLEM could be considered "patented" using the United States Food and Drug Administration's Orange Book (FDA 2015b), Health Canada's Patent Register (Health Canada 2015), and previous studies (Attaran 2004; Cavicchi and Kowalski 2011); using these patent data to retrieve related patents abroad from international patent databases (INPADOC and Derwent) and to create a preliminary landscape report; and finally, approaching each medicine supplier with our preliminary data for confirmation or clarification of these data as needed. All supplier companies cooperated with that request, and transparently shared their patent data, except for two: Cipla and InSite Vision. The end product is the 20 landscapes contained in this report.

This report finds that 20 of the 375 items (or about 5 per cent) listed on the 2013 MLEM may be considered

as patented. All 20 of these items are medicines, mostly (13 out of 20) for HIV/AIDS, and the remaining ones are antibiotics, another anti-viral, or for a non-communicable disease (cancer and gastroesophageal reflux disease). Of these 20 medicines, seven have live compound patents as of 2015, which are uniquely effective at establishing and maintaining market exclusivity for the patent holder because they cover the medicine's active ingredient. However, because these are older medicines that predate the implementation of TRIPS-consistent product patent protection in medicine-exporting developing countries (especially India), and considering the number of voluntary licensing agreements between originator and generic pharmaceutical manufacturers, generic equivalents to many of these medicines are available on the international market, especially for the HIV/AIDS medicines (Global Fund 2015; WHO 2015a). This is, however, unlikely to be true for bevacizumab as it is a biologic (biologics being difficult and expensive to manufacture, regardless of IP status).

There was great variability amongst the patent estates in the number of countries where patents were filed – the percentage of developing countries covered by a given patent estate ranged from less than one per cent to 44 per cent, but had a median of 15 per cent. This variability is likely due to the date and nature of the filings (e.g., whether the portfolio included new formulation or co-formulation patent filings). Patent filings seemed to follow market and manufacturing opportunity, being slightly more common in countries with relatively higher incomes, larger populations, pharmaceutical production capacity, or membership in a regional patent organization. In this limited sample, patents appear more frequently in China, the Philippines, and Indonesia for the East and the Pacific region; Brazil and Mexico for Latin America and the Caribbean; India for South Asia; South Africa for Sub-Saharan Africa; and Bulgaria, Romania, and Turkey for Europe and Central Asia. For these 20 MLEM products – 44 countries had no patent filings, 11 countries had a single filing, and 16 countries had just two filings; these represent over half of the 137 countries covered by this study. The percentage of active patent coverage for the MLEM, as calculated by the 375 items in 137 countries, is less than 1 per cent.

This study demonstrates the value of patent transparency in putting the debate about patents and access to medicines on empirical, and not exaggerated, terms. Objectively assessed, 20 patented medicines on the MLEM is a small fraction. However, that fraction is not negligible either, and the patented 20 medicines are sufficiently important in a public health sense to warrant targeted attention. Where patents exist and are enforced, medicine buyers may either negotiate affordable prices, or make use of licensing (voluntary

or compulsory). In particular, it appears that voluntary licensing agreements between originator manufacturers and generic producers can provide the necessary flexibility, as already illustrated for several of the medicines on the 2013 MLEM.

The global demographic transition toward a higher prevalence of non-communicable diseases (NCDs) means that more patented products are likely to be on the MLEM in the future. This is already apparent in the addition of four medicines covered by patents (filgrastim, imatinib, rituximab, trastuzumab) for treating cancers in the recently published 2015 MLEM. This provides more opportunities to choose new collaborations (either in the form of licensing agreements or more creative solutions not yet envisaged) over conflict to avoid repeating past frictions between advocates for access to essential medicines and advocates for patent protection during the HIV/AIDS crisis. More proactive and pragmatic cooperation is recommended, with patent transparency as a starting point for evidence-based solutions on how best to reconcile patent rights and patient rights.

Section 2: Introduction

While all life-saving or life-sustaining medicines may be considered “essential”, the World Health Organization (WHO) provides its Model List of Essential Medicines (MLEM) to guide countries and global health actors in identifying those medicines for which access should – as a bare minimum starting point – be guaranteed (WHO 2013). When the WHO Expert Committee on the Selection and Use of Essential Medicines adds a new medicine to its MLEM, it encourages individual countries to add it to their own national List of Essential Medicines and to internal medicine registries. Similarly, several foundations and major charities base the medicines they supply to lower-income countries on the MLEM. It therefore has influence on the availability of medicines in lower-income countries. The WHO MLEM Expert Committee updates its work biannually, taking account of changing disease profiles of developing countries and reconsidering the evidence base and new medicines that have come onto the market. Medicines are included irrespective of patent status and price (though cost-effectiveness is a criterion for inclusion when two similar products are considered) (WHO 2015b).

From a health system perspective, there are many determinants of access to medicines, including medicine price (Bigdeli et al. 2013). The WHO identifies “affordable prices” as one of four conditions in its “access to medicines framework” for ensuring sustainable access to medicines (WHO 2004). As a patent owner may be an exclusive supplier in the market of a medicine covered by patent protection, prices could be raised beyond what is affordable for individuals or third-party payers, although the prices of medicines depend on various factors other than patents, such as national insurance schemes. The extent to which MLEM products are patent-protected in low- and middle-income countries is therefore an important consideration when addressing potential barriers impeding access to essential medicines. Given the consensus on the global public health importance of MLEM products, many observers are often surprised to learn that there is no international medicine patent register and that it is not standard practice for global medicine suppliers to disclose their international patent holdings globally, not even for essential medicines. Consequently, aside from the legal professionals working within the IP divisions of global medicine-supplying companies, the current international patent landscape for medicines is not clearly understood by global health actors and policy-makers, not to mention the general public.

This lack of understanding introduces considerable unknowns into the debate regarding the potential conflict between access to medicines and patents in developing countries. In the absence of sound data, the debate quickly becomes polarized and ideological. When information around essential medicine patents is opaque and inaccurate, it may discourage or unnecessarily alter the actions of importers, exporters, manufacturers and other global health actors who fear infringing upon intellectual property rights (e.g., unnecessarily buying originator over generic) (t’Hoen 2014). Given the WHO’s prioritization of the medicines on the MLEM, it follows that the patent status of these medicines should be transparent to those who buy medicines, both to maximize value for money and to avoid patent infringement (UNDP 2012; Milani and Oh 2011).

The patent status of essential medicines rose in interest in 2002, after several new and patent-protected antiretrovirals for treating HIV/AIDS were added to the MLEM (Laing et al. 2003). Shortly thereafter, Attaran conducted the first academic patent-based analysis of the entire MLEM, published in 2004 (Attaran 2004). This study brought empirical clarity to the debate on whether patents were interfering with access to essential medicines in developing countries. It demonstrated that only six per cent (19 of 319) of medicines appearing on the 2003 MLEM were patent-protected (most were HIV medicines) and that such patent protection did not extend far into developing countries, since many companies never filed patent applications there.

This study brought to light the importance of understanding the essential medicine patent landscape. Simply put, it is only where patents for a given medicine exist, either locally (i.e., in the consumer’s country) or in the manufacturer’s country (i.e., in the exporter’s country), that patents can lawfully impede access. Knowing where patents exist and where they are absent helps remedy misunderstandings and frustrations. It also paves the way for cooperation between global health actors, regardless of their ideological leanings, because it can identify the problem areas where they can work together to mitigate any medicine access issues that have resulted from patent protection.

Since the MLEM is updated biannually, and the global demographic and epidemiologic profile is dynamic, it is important to keep current the understanding of the essential medicine patent status. WIPO and WHO approached Cavicchi and Kowalski at the International Technology Transfer Institute of the Franklin Pierce Center for Intellectual Property at the University of New Hampshire School of Law to conduct a similar patent landscaping exercise for the 2009 and 2011 updates of the MLEM (Cavicchi and Kowalski 2009, 2011).

The current study continues this tradition using the 2013 MLEM, building upon the data and methods of previous reports. It was commissioned by WIPO's Global Challenges Division in 2014 using the most recent (2013) MLEM. At the request of WIPO, the patent survey was enlarged to include all low- and middle-income countries (137 countries in total), making it the largest MLEM patent landscape study of the developing world, that has been validated by global medicine suppliers. The fieldwork for this study was conducted in 2014/15, during which time the following update of the MLEM was released.

While this report focuses exclusively on the 2013 MLEM, we have provided in the Annex, at the peer reviewers' request, preliminary and unverified patent data tables of the new additions to the 2015 MLEM that are likely to be under some kind of patent protection in some developing countries, according to our methodology.

Section 3:

Methodology

The objective of this project is to determine, to the extent possible, which medicines on the 2013 WHO MLEM (18th edition) are patented, and where. A variety of approaches have been suggested and used for collecting international patent data globally on a single medicine, (UNDP 2012; Attaran 2004; Cavicchi and Kowalski 2009; Mackey 2012; WIPO 2011a; WIPO 2011b; Attaran and Gillespie-White 2001; Clark and Kowalski 2012) varying widely in cost and complexity. We opted to develop an approach that could be replicated in the future with each update of the MLEM, and one that builds upon the data and methodology of the studies that have preceded it, namely, Attaran's report in 2004, and Cavicchi and Kowalski's in 2009/11 (Attaran 2004; Cavicchi and Kowalski 2009, 2011). The fieldwork was undertaken in 2014/15 using the latest available edition of the MLEM (18th edition revised in 2013).

This study was completed in three phases. Firstly, we created a shortlist of MLEM medicines known or thought to be patented, separate from those which could be safely set aside as no longer covered by patent protection. Secondly, we determined the patent families for each medicine by using secondary sources of patent information from established databases. Thirdly, to verify or improve our tentative results, we contacted each medicine patent holder or supplier with our preliminary findings and requested their feedback and corrections, which all but two provided. This resulted in a validated patent portfolio for each medicine.

While this study was in progress, the 2015 MLEM was published. In response to peer reviewer requests, we completed phases one and two as described above for the new additions likely to fall under patent protection in some developing countries. We have included these tentative patent data reports in Annex 3, but it should be noted that none of these has been validated by supplier companies (see discussion of phase three below). Therefore, except for Annex 3, the exclusive focus of this report is the 2013 MLEM.

3.1 PHASE 1: DETERMINING WHICH OF THE 375 MEDICINES ON THE 2013 MLEM ARE PATENTED

Determining whether or not a given medicine is patented so as to preclude generic competition in a given country is a deceptively complicated question for a number of reasons. Firstly, there is no such thing as a "global patent", meaning that patents in one country

might be different or even non-existent in another country. Secondly, even where a patent exists, it may not be effective at blocking generic competition. For example, a patent on a medicine's manufacturing process might be skirted by manufacturing it in some other way. Simply put, both the territory of the patents and the scope of the patent claims matter.

Our approach addresses these ambiguities. Consistent with other studies (UNDP 2012; Milani and Oh 2011; Attaran 2004; Cavicchi and Kowalski 2009, 2011; Attaran and Gillespie-White 2001; Amin 2013), the United States and Canada were used as the base jurisdictions for the assessment of which medicines are patented. These countries represent much of the global pharmaceutical market (the United States alone represents 37 per cent of medicine sales globally in 2009) (UNDP 2012); they grant high numbers of patents annually; afford TRIPS-consistent patent protection; and require companies to transparently disclose patent holdings in the United States Food and Drug Administration's Orange Book (FDA 2015b) and Purple Book (FDA 2015a), and Health Canada's Patent Register (Health Canada 2015a). The Orange Book and Drug Product Database (Health Canada 2015b), respectively, also provide data on whether generic alternatives exist in the US and Canada. Checking for the presence of generic competition in the base jurisdictions is an advance on previous methodologies. As not all patents block generic competition, this extra step distinguishes those products for which there is a single source supplier from those having multiple generic suppliers already on the market despite patents being listed. Where these sources contain a patent disclosure for an MLEM medicine having the same drug, strength, formulation, and demonstrate an absence of generic competition for that medicine in the respective jurisdiction, that medicine was presumed to be patented elsewhere and included for further patent screening.

We also consulted the data files from the previous patent studies on the MLEM that used similar methodologies (Attaran 2004; Cavicchi and Kowalski 2009, 2011) so as to exclude medicines whose patents had by now exceeded 21 years from the application filing date (full patent protection in most countries expires at 20 years).

Applying these criteria, presumptively patented medicines for the purposes of this exercise are those that: (i) have patents listed in the United States or Canada; (ii) are available only in the originator form in the respective jurisdiction; and (iii) had not yet been determined to be post-patent by a previous study. The two medicines for which we were not able to apply this method, because they were not marketed in the US or Canada, were automatically included for the next phase.

3.2 PHASE 2: DETERMINING WHERE MEDICINES ON THE 2013 MLEM ARE PATENTED IN DEVELOPING COUNTRIES

With patent information for each of the medicines short-listed as above, all related patent publications (including applications) – regardless of jurisdiction – were extracted from the INPADOC and Derwent databases using the Thomson Innovation portal (Thomson Reuters 2015). Each of these databases has international coverage and groups related patents and applications into families. INPADOC families are the most inclusive. They include all the documents directly or indirectly linked via a priority document (INPADOC 2008). Derwent families are more parsimonious because they are maintained by analysts who group entries according to a number of criteria (i.e., claims and applicants) stemming from a “basic application,” but still occasionally capture patents overlooked by INPADOC (Cavicchi and Kowalski 2009). These databases were used for the previous MLEM patent studies and for the purposes of the present one, data were combined and duplicates removed (Attaran 2004; Cavicchi and Kowalski 2009 and 2011).

Each patent document (granted patents and applications) in our study is related to one of 88 Derwent or INPADOC extended families.

Most pharmaceutical patents or applications describe one or more of the following innovations: a compound, a process, method of treatment, a formulation, or a co-formulation. Based on the title, abstract and patent claims, two reviewers independently classified each patent’s relevance under these categories. The Merck Index (Royal Society of Chemistry 2015) maintained by the Royal Society of Chemistry in Cambridge was further consulted for additional assistance in the classification exercise. We consider medicines with active compound patents to be of particular interest, since they are uniquely effective at establishing and maintaining market exclusivity for the patent holder, because they cover the medicine’s active ingredient.

We tabulated the territorial coverage of each granted patent and patent application by country, except for countries categorized as “high-income” by the World Bank (World Bank 2015) or with “very high human development” by United Nations Development Program (UNDP 2014). These preliminary patent data were entered into a spreadsheet and prepared for verification by the suppliers during the next phase of the study.

3.3 PHASE 3: PATENT DATA VERIFICATION

To reduce the chances of error, each preliminary report was sent to the supplier company (or patent

holder) for verification. This is an important step as it is ultimately the responsibility of the patent holder to apply for patents internationally, maintain those rights where granted, and enforce said rights when and where infringement occurs. The patent holders, therefore, are uniquely positioned to know where exactly they have rights on a particular product at a given time, and whether they intend to enforce those rights. It is also critical because the records of supplier companies may include records not located or not contained in the INPADOC and Derwent databases. This additional verification step is desirable and adds accuracy, but a fairly good picture of patent coverage can be obtained without it. A verification step was used in Attaran’s original study in 2004 (Attaran 2004), but not in the studies by Cavicchi and Kawolski in 2009 and 2011 (Cavicchi and Kowalski 2011).

Companies were asked only for the minimum information necessary to confirm the existence of a patent: namely, patent or application numbers, expiration dates, and legal status in a given jurisdiction. No further information was required to complete the survey; however, space was provided for respondents, optionally, to note additional salient information such as voluntary patent non-enforcement, the presence of generic competition, voluntary licenses, access programs, etc. As most companies were initially reluctant or non-respondent, either the authors or WIPO made several attempts to contact them and elicit their cooperation. This process took seven months, after which all major companies decided to participate in the exercise, except for two (Cipla and InSite Vision).

Section 4:

Results: Patented Medicines on the 2013 MLEM

4.1. PRELIMINARY SCREENING RESULTS

Using data from previous studies (Attaran 2004; Cavicchi and Kowalski 2009 and 2011), 306 items were excluded from the 2013 MLEM because they had no patent publications with application dates younger than 21 years, or because they were not truly “medicines” within the scope of this study (e.g., condoms). The remaining 69 medicines were investigated in the Orange Book and Health Canada databases. After applying the remaining exclusion criterion (i.e., the absence of a patent listing in Canada or the United States registers and/or the presence of a generic equivalent), the 49 medicines below were removed from our study (Table 1).

In the cases of indinavir, mupirocin, and diazepam, the suppliers informed us that these medicines were now

post-patent or that there are no unexpired patents in any of countries covered by our study. These medicines cover a range of therapeutic classifications, including several medicines in co-formulation and otherwise for treating HIV/AIDS. It should be made clear that some formulation or co-formulation patents were listed for several of the medicines above in the United States and/or Canada, but generic alternatives of the same formulation were available in the same market (American or Canadian) as where patents were posted in the national register, demonstrating that patents had not blocked generic entry, possibly due to licensing or marketing agreements which were not further investigated.

4.2 PROFILES OF PATENTED 2013 MLEM MEDICINES

After these exclusions, the remaining 20 of 375 medicines (five per cent) on the MLEM was found to be patented and explored further for the purposes of this study (Table 2). In the case of pegylated interferon, for which the MLEM lists either the alfa 2a or alfa 2b forms, we included both and considered them separately.

Table 1:

MEDICINES EXCLUDED FOR GENERIC COMPETITION IN CANADA OR THE UNITED STATES (N=49)

| | | |
|----------------------------------|-----------------------------------|------------------------|
| Albendazole | e+rifampicin | Mupirocin** |
| Amiodarone | Fluoxetine* | Nevirapine |
| Amitriptyline | Fomepizole* | Ofloxacin |
| Amphotericin B | Gliclazide* | Ondansetron* |
| Artemether | Haloperidol | Paclitaxel |
| Artesunate+amodiaquine | Hydroxycarbamide | Propofol* |
| Artesunate+mefloquine | Hyoscine butylbromide | Ribavirin |
| Beclometasone | Ibuprofen** | Risperidone |
| Budesonide | Indinavir** | Stavudine |
| Ciprofloxacin | Isoniazid+pyrazinamide+rifampicin | Terbinafine |
| Clarithromycin | Lamivudine* | Zidovudine* |
| Clozapine | Latanoprost | Zidovudine+lamivudine* |
| Deferasirox | Levodopa+carbidopa | |
| Dexamethasone | Loperamide* | |
| Diazepam** | Loratadine* | |
| Docetaxel | Medroxyprogesterone acetate | |
| Docusate sodium | Metoclopramide | |
| Doxycycline | Miltefosine | |
| Ethambutol+isoniazid+pyrazinamid | Morphine | |

* Patents were listed, but the exclusion is based on the registration of generic competition in the same jurisdiction.

** Exclusions were made based on companies' report that the medicine is either post patent or is not patented in any of the nations covered by our study.

4.2.1 THERAPEUTIC CLASSIFICATIONS

The final column in Table 2 indicates the therapeutic category of the medicines. Consistent with previous patent studies on the MLEM (Attaran 2004; Cavicchi and Kowalski 2009 and 2011), the majority of patented medicines continue to be for infectious diseases: HIV/AIDS (13 antiretrovirals), malaria (artemether-lumefantrine), influenza (oseltamivir), hepatitis (the pegylated interferons) and general bacterial infection (azithromycin). Given concerns regarding the increase in non-communicable disease in the less developed world, treatments for gastrointestinal reflux disease (omeprazole) and the addition of a cancer medicine (bevacizumab) are noteworthy. Bevacizumab is also significant because it is a biologic medicine, a newer class of medicine known to be difficult to manufacture and therefore not easily lending itself to generic (biosimilar) competition, even if there were no patents (Brinckerhoff and Schorr 2015).

4.2.2 AGE OF COMPOUND PATENTS AND PREVIOUS STUDIES

The Merck Index column in Table 2 identifies the compound patent to have advanced the science. The priority year (i.e., the year of the first patent filing globally) is also listed in the parentheses to indicate the age of the compound patent(s). Compound patents are of special interest in that they are uniquely effective at establishing and maintaining market exclusivity for any product having that chemical ingredient.

As of 2015 and assuming a patent life of 20 years, the compound families identified by the Merck Index will have expired or will begin expiring for 13 of the medicines; the remaining 7 of these medicines have ongoing compound patents: atazanavir (1996), efavirenz+emtricitabine+tenofovir (1996), emtricitabine+tenofovir (1996), tenofovir (1996), pegylated interferon alfa 2a (1997), oseltamivir (1995) and bevacizumab (1997).

It is important to emphasize that while no generic alternative was available for these 20 medicines in the United States and/or Canada, this is not necessarily the case in the international market, especially where the compound patent has expired. All of the compound families noted in Table 2 were filed before 2005, predating the introduction of TRIPS-level patent protection in India and other medicine-exporting developing countries.

Generics have also made their way into the market where patent holders voluntarily entered licensing agreements that allow for generic production in India and elsewhere. Several companies notified us of such

licenses for specific MLEM products (e.g., Abbvie, Gilead, GSK, Merck Sharp & Dohme, Roche). We are aware, based on medicine procurement data from WHO and the Global Fund, of generic availability on the international market, even for the four HIV/AIDS medicines with active compound patent families (atazanavir, efavirenz+emtricitabine+tenofovir, emtricitabine+tenofovir, tenofovir) (Global Fund 2015, WHO 2015a). As the WHO procurement data are limited to HIV/AIDS, tuberculosis, and malaria, we are unable to comment on the possible generic availability of medicines for other conditions, such as pegylated interferon alfa 2a, oseltamivir, or bevacizumab.

4.2.3 SUPPLIER COMPANIES

The supplier companies are also listed in Table 2. These were taken from the Orange Book and therefore reflect United States suppliers with the exception of the co-formulations patented by Aurobindo and Cipla. It should be noted that suppliers sometimes vary by country and may, because of marketing agreements, be different from the patent holders. The companies whose medicines are represented in this study are shown in Figure 1.

In all, there are 11 companies with one or more patented medicines on the MLEM. Of these, innovator pharmaceutical companies are most prevalent. However, since it is commonly assumed that companies known for generic production do not own patents on their products, it is noteworthy that for the first time, two Indian generics companies, Aurobindo and Cipla, were found to have patented medicines on the MLEM. While Aurobindo's patent estate was acquired from GSK, Cipla itself applied for and obtained a number of patents for the fixed-dose combination of three antiretrovirals (lamivudine+nevirapine+stavudine) (Bloomsbury 2011). Cipla, despite several requests, did not disclose its patent holdings. InSite Vision, a specialized firm in Alameda, California, the United States, did not verify our data for an eye-drop formulation of azithromycin that is specific to ophthalmological preparations.

Table 2:

2013 MLEM MEDICINES UNDER PATENT PROTECTION

| Medicine | Company | Representative patents | Claims | Merck Index patent (priority date) | Treatment |
|---|----------|--|-----------------|---|----------------|
| azithromycin (Azasite) | Insite | WO1999022713 EP925789 WO2000057866 | F/M | US4517359 (1981) | Anti-bacterial |
| artemether+lumefantrine (Coartem) | Novartis | WO1992002217 | CoF | US5677331 (1990) | Malaria |
| abacavir (Ziagen) | GSK | EP0434450 WO9852949 WO1999039691 | C | EP349242 (1988) | HIV/AIDS |
| atazanavir (Reyataz) | BMS | WO9740029 WO9936404 WO2005108349 | C/M/P | WO9740029 (1996)* | HIV/AIDS |
| didanosine (Videx) | BMS | EP206497 WO8701284 US5026687 US5880106 WO9961002 | C/F/M | US4920210 (1985) | HIV/AIDS |
| efavirenz (Sustiva) | BMS | WO1999061026 WO1999051239 EP582455 WO1998033782 | C/F/P | EP582455 (1992) | HIV/AIDS |
| efavirenz+emtricitabine+tenofovir (Atripla) | Gilead | EP582455 WO1998033782 WO2006135933 WO1992014743 WO2004064845 WO1998004569 WO1999005150 | C/CoF/ F/P/M | EP582455 (1992) (EFV) WO9214743 (1991) (FTC) WO9804569 (1996)* (TDF) | HIV/AIDS |
| emtricitabine (Emtriva) | Gilead | EP0382526 EP526253 WO1992014743 | C/F/P/M | WO9214743 (1991) (FTC) | HIV/AIDS |
| emtricitabine+tenofovir (Truvada) | Gilead | WO2004064845 WO1998004569 WO1999005150 | C/CoF/ M/P | WO9214743 (1991) (FTC) WO9804569 (1996)* (TDF) | HIV/AIDS |
| lamivudine+nevirapine+stavudine (Triomune) | Cipla | WO2007026156 ZA200110499 | CoF | WO91017159 (1991) (3TC) EP429987 (1991) (NVP) EP334368 (1988) (d4T) | HIV/AIDS |

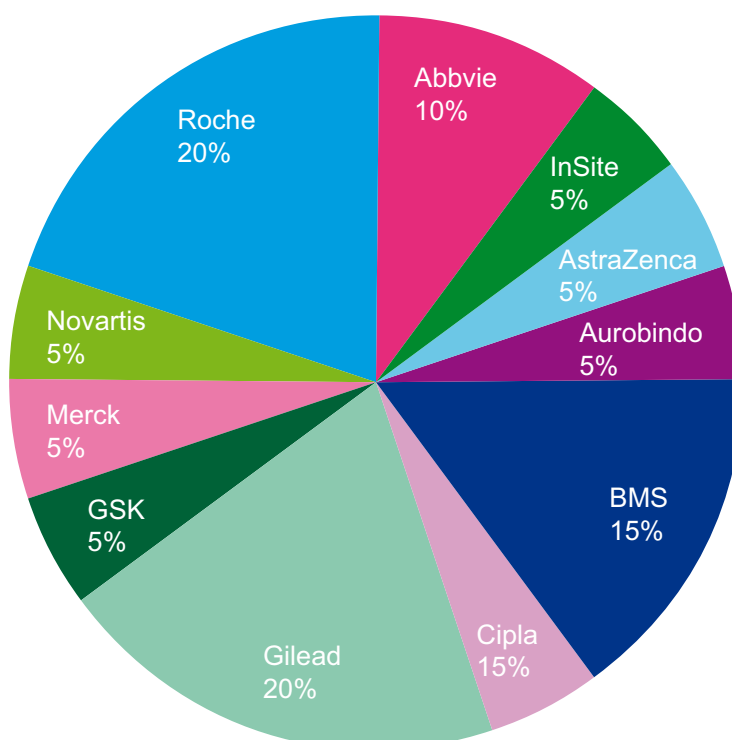
| Medicine | Company | Representative patents | Claims | Merck Index patent (priority date) | Treatment |
|----------------------------------|-----------|---|-----------------|---|-----------|
| lamivudine+nevirapine+zidovudine | Aurobindo | WO9818477 | CoF | WO1991017159 (1990) (3TC) EP429987 (1991) (NVP) US4724232 (1985) (ZDV) | HIV/AIDS |
| lopinavir+ritonavir (Kaletra) | Abbvie | WO1997021685 WO9822106 US20020090445 WO1994014436 US5948436 WO1995020384 WO1997001349 WO2000004016 US6232333 WO2001034118 DE10026698 US20050203152 US20050048112 US20050084529 US7141593 US7364752 | C/CoF/ F/P/M | WO1991017159 (1990) (3TC) WO9414436 (1992) (RTV) | HIV/AIDS |
| ritonavir (Norvir) | Abbvie | WO1994014436 US5948436 WO1995020384 WO1997001349 WO2000004016 US6232333 WO2001034118 DE10026698 US20050203152 US20050048112 US20050084529 US7141593 US7364752 | C/CoF/ F/P/M | WO9414436 (1992) | HIV/AIDS |
| saquinavir (Invirase) | Roche | WO2005004836 EP346847 EP0432695 WO9639142 US20050009811 | C/F/P | EP432695 (1989) | HIV/AIDS |
| tenofovir (Viread) | Gilead | WO1998004569 WO1999005150 WO2008007392 WO9111186 | C/P/M | WO9804569 (1996) * | HIV/AIDS |

| Medicine | Company | Representative patents | Claims | Merck Index patent (priority date) | Treatment |
|--|--------------|--|---------|---|-----------|
| pegylated interferon alfa 2a (Pegasys) | Roche | EP736303 EP0809996 | C/F/M | EP0809996 (1996)* | Hepatitis |
| pegylated interferon alfa 2b (PegIntron) | Merck | EP32134 WO1999032139 WO1998048840 WO1999048535 US6180096 | C/F/M/P | WO9513090 (1993) | Hepatitis |
| oseltamivir (Tamiflu) | Roche | WO1996026933 US5763483 | C/P | US5763483 (1995)* | Influenza |
| bevacizumab (Avastin) | Avastin | WO1994004679 WO1994010202 WO1998045331 | C/M/P | WO9845331 (1997)* | Cancers |
| omeprazole (Losec) | Astra-Zeneca | WO1995001783 WO2000027366 | F/P | EP5129 (1978) US5693818 (1993) | GERD |

* Merck compound patent families are likely active; all others have likely begun to expire or have already expired.

Figure 1:

PROPORTION OF PATENTED 2013 MLEM MEDICINES SUPPLIERS BY COMPANY



Section 5:

Results: Developing Countries Where Essential Medicines are Patented

This section focuses exclusively on the five per cent of medicines on the 2013 MLEM (20 out of 375). The results, charts, and tables discussed in this section are based on the data in Table 3. The numbers in the cells indicate how many active patent filings (grants or applications) are in that jurisdiction; the blanks represent the absence of an active patent filing (application or grant). The individual patent data reports are available in the Annex 2 and Annex 3.

5.1 DISCLAIMER AND CAVEATS

Most of the patent data discussed in this section have been verified by the companies. However, because of the temporally dynamic nature of the legal status of patents (e.g., patent applications can be granted belatedly or granted patents can be invalidated), a small number of errors are likely to remain even after several rounds of verification, although not so many as to materially affect our conclusions. While satisfactory for an academic study, we stress that these data are not sufficient for the purposes of evaluating legal freedom to operate for commercial purposes. Given the serious legal consequences of patent infringement, no promise or warranty as to the accuracy of the data is made or implied, and we strongly recommend that anyone wishing to rely on these findings obtain independent legal advice before doing so.

A major caveat applies to the data for lamivudine + nevirapine + stavudine and for the eye-drop formulation of azithromycin, as neither of the supplier companies, Cipla and InSite Vision, participated in the study. Where other companies noted minor caveats in the verification process, such as the current status of a recent patent application, or uncertainties as to the date of a patent's expiry, this is noted in the patent data tables.

5.2 PATENTS RELEVANT TO THE MLEM BY MEDICINE AND COUNTRY

The patent estate coverage in less developed countries of the 20 MLEM medicines in question ranged widely from less than one per cent to 44 per cent; the median was 15 per cent. This indicator was higher for 13 HIV/AIDS medicines, at 20 per cent, and lower for the

other seven medicines, at six per cent. These statistical differences are modest, and it is unclear whether they reflect any true difference in patent-seeking behavior between these disparate therapeutic categories; we draw no conclusion in this regard.

Table 4 breaks down the total number of filings and national coverage by medicine.

The number of countries in which patent filings exists ranges enormously: from one for artemether-lumefantrine, to 65 for pegylated interferon alfa 2a. Likewise, the number of patent filings per medicine has a great range: from one for artemether-lumefantrine to 192 for efavirenz-emtricitabine-tenofovir.

When each patent data report is considered individually, the patent-seeking behavior of companies appears to be idiosyncratic rather than systematic. There is no obvious pattern based on a medicine's therapeutic use, and no consistent practice across the industry. It is not even necessarily true that customarily "generic" companies (e.g. Aurobindo, Cipla) patented in fewer countries than the "innovator" companies (e.g. Novartis, Roche).

Table 4 also lists the first and last patents to expire among the families contained in this study. Some medicines will become totally patent-free within the next three years (assuming that no new formulations are patented and added to the MLEM in the future), while others have patents extending as late as 2031. What is striking is that the time frame within which patents expire can sometimes be quite long, relative to the notional patent life of 20 years: e.g., 14 years between the first and last patent expiry for efavirenz-emtricitabine-tenofovir. The variation is expected due to patents being applied for and accruing over time particularly for new (co-)formulations, and differences in the speed with which countries grant patent applications.

To illustrate the dynamic nature of patent expiry, Figure 2 presents the time to total expiry of existing patents on HIV/AIDS medicines.

Sharp drops in the number of active patents suggest the expiration of a large patent family, and are also likely to represent a sharp decrease in the number of jurisdictions in which the medicine is patented, or corresponding increase in generic competition. This dynamic can be analogized to a demographic survival curve, where patent "death" is a staged process in which the relative role of "offspring" (generic versions of the original medicines) in the population increases as the "parents" (patented innovative medicines) succumb.

| | Anti-bacteria | Anti-malaria | Anti-HIV/AIDS | | | | | | | | | | Hepatitis | Influenza | Cancer | GERD | Total patents | Total Number of Countries | | | | | | | | | | | | |
|----------------------------------|---------------|--------------|---------------|--------------|----------|------------|------------|-----------|---------------------------------------|---------------|---------------------------|-------------------------------------|-----------|-----------|--------|------|---------------|---------------------------|--------------------------------------|-----------------------|-----------|------------|-----------|------------------------------|------------------------------|------------|-------------|------------|---|--|
| | | | Azithromycin | Artemether + | Abacavir | Atazanavir | Didanosine | Efavirenz | Efavirenz + Emtricitabine + Tenofovir | Emtricitabine | Emtricitabine + Tenofovir | Lamivudine + Nevirapine + Stavudine | | | | | | | Lamivudine + Nevirapine + Zidovudine | Lopinavir + ritonavir | Ritonavir | Saquinavir | Tenofovir | Pegylated interferon alfa 2a | Pegylated interferon alfa 2b | Osetamivir | Bevacizumab | Omeprazole | | |
| Mauritania | | | | | | | | | | | | | | | | | | | | | | | | | | | | 4 | 2 | |
| Mauritius | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 1 | |
| Mexico | 3 | | 4 | 10 | 3 | 8 | 11 | 1 | 5 | | | | 1 | 13 | 13 | | | | | | | | | | | | 103 | 18 | | |
| Micronesia (Federated States of) | | | | | | | | | | | | | | | | | | | | | | | | | | | 0 | 0 | | |
| Moldova (Republic of) | | | | | | 3 | 3 | | 1 | | | | 2 | 2 | | | | | | | | | | | | | 16 | 5 | | |
| Mongolia | | | | | | | | | | | | | | | | | | | | | | | | | | | 0 | 0 | | |
| Montenegro | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | 2 | 1 | | |
| Morocco | | | 3 | | | | | | | | | | 1 | | | | | | | | | | | | | | 10 | 4 | | |
| Mozambique | | | 1 | | | 2 | 2 | 3 | | | | | | | | | | | | | | | | | | | 12 | 4 | | |
| Myanmar | | | | | | | | | | | | | | | | | | | | | | | | | | | 0 | 0 | | |
| Namibia | | | | | | 2 | 2 | 3 | | | | | | | | | | | | | | | | | | | 10 | 3 | | |
| Nepal | | | | | | | | | | | | | | | | | | | | | | | | | | | 0 | 0 | | |
| Nicaragua | | | 2 | | | | | | | | | | | 3 | 3 | | | | | | | | | | | | 11 | 3 | | |
| Niger | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | 4 | 2 | | |
| Nigeria | | | 1 | | 1 | | | | | | | | | | | | | | | | | | | | | | 6 | 3 | | |
| Pakistan | | | 1 | 2 | | | | | | | | | | 2 | 1 | | | | | | | | | | | | 12 | 5 | | |
| Palau | | | | | | | | | | | | | | | | | | | | | | | | | | | 0 | 0 | | |
| Palestine, State of | | | | | | | | | | | | | | | | | | | | | | | | | | | 0 | 0 | | |
| Panama | | | 2 | | | | | | | | | | | 1 | 1 | 1 | | | | | | | | | | | 11 | 5 | | |
| Papua New Guinea | | | | | | | | | | | | | | | | | | | | | | | | | | | 0 | 0 | | |
| Paraguay | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | 1 | | |
| Peru | | | 3 | | | | | | | | | | | | 2 | 2 | 1 | | | | | | | | | | 17 | 6 | | |
| Philippines | | | 7 | 2 | | 2 | 4 | 5 | | | | | 1 | 16 | 17 | 1 | 3 | | | | | | | | | | 77 | 13 | | |
| Romania | 4 | | 1 | 4 | 3 | 6 | 9 | 1 | 5 | | | | 1 | 7 | 11 | 1 | 4 | | | | | | | | | | 79 | 16 | | |
| Rwanda | | | | | | | | | 2 | | | | | | | | | | | | | | | | | | 10 | 3 | | |
| Saint Lucia | | | | | | | | | | | | | | | | | | | | | | | | | | | 0 | 0 | | |
| Saint Vincent and the Grenadines | | | | | | | | | | | | | | | | | | | | | | | | | | | 0 | 0 | | |

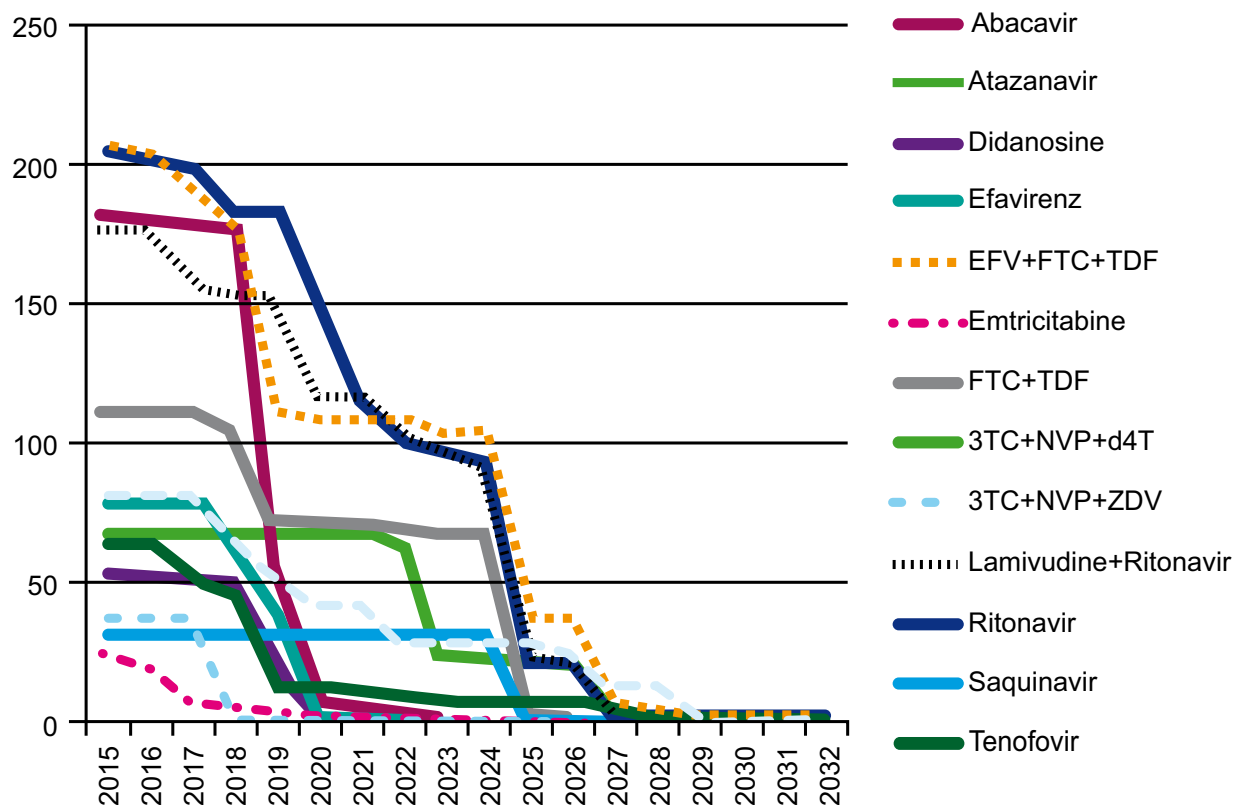
| | Anti-bacteria | Anti-malaria | Anti-HIV/AIDS | | | | | | | | | | | | Hepatitis | Influenza | Cancer | GERD | Total Number of Countries | | | | | | |
|-----------------------------|---------------|--------------|---------------|--------------|----------|------------|------------|-----------|---------------------------------------|---------------|---------------------------|-------------------------------------|--------------------------------------|-----------------------|-----------|-----------|--------|------|---------------------------|------------|-----------|------------------------------|------------------------------|------------|-------------|
| | | | Azithromycin | Artemether + | Abacavir | Atazanavir | Didanosine | Efavirenz | Efavirenz + Emtricitabine + Tenofovir | Emtricitabine | Emtricitabine + Tenofovir | Lamivudine + Nevirapine + Stavudine | Lamivudine + Nevirapine + Zidovudine | Lopinavir + ritonavir | | | | | Ritonavir | Saquinavir | Tenofovir | Pegylated interferon alfa 2a | Pegylated interferon alfa 2b | Osetamivir | Bevacizumab |
| Venezuela, RB | | | 2 | | 2 | | | | | | | | | | | | | | | | | | | 17 | 7 |
| Vietnam | | | | | | 2 | | 1 | | | | 1 | | | | | | | | | | | | 23 | 9 |
| West Bank and Gaza | | | | | | | | | | | | | | | | | | | | | | | | 0 | 0 |
| Yemen | | | | | | | | | | | | | | | | | | | | | | | | 0 | 0 |
| Zambia | | | | | | 2 | | 2 | | | 2 | | | | | | | | | | | | | 10 | 3 |
| Zimbabwe | | | 4 | | | 2 | | 2 | | | 2 | | | | | | | | | | | | | 19 | 6 |
| Totals (countries, patents) | 28 | 1 | 152 | 67 | 44 | 69 | 173 | 21 | 95 | 65 | 34 | 135 | 153 | 28 | 52 | 60 | 29 | 19 | 16 | | | | 1735 | 486 | |
| ARIPO | | | 4 | | 2 | | 2 | | 2 | 3 | 1 | | | | | | | | | | | | | 21 | 7 |
| EAPC | | | 4 | | | 2 | 3 | | 1 | | | 4 | 4 | | | | | | | | | | | 26 | 8 |
| EPO | 4 | | 1 | 1 | 1 | 2 | 8 | 1 | 5 | | 1 | 15 | 20 | 1 | 5 | | 3 | | | | | | | 89 | 21 |
| OAPI | | | | | | | | | | | 1 | | | | | | | | | | | | | 4 | 2 |
| GCC | | | | | | | | | | | | | | | | | | | | | | | | 0 | 0 |
| Totals | 32 | 1 | 161 | 68 | 47 | 73 | 186 | 22 | 103 | 68 | 37 | 154 | 177 | 29 | 57 | 61 | 32 | 19 | 16 | | | | 1875 | 524 | |

Table 4:**NUMBER OF PATENTS AND JURISDICTIONAL COVERAGE BY MEDICINE WITH EXPIRATION RANGES**

| Medicine | Jurisdictions with active filings | Active filings | First expiration | Last expiration |
|---------------------------------------|-----------------------------------|----------------|------------------|-----------------|
| Abacavir | 53 | 152 | 2018 | 2023 |
| Artemether + lumefantrine | 1 | 1 | 2018 | 2018 |
| Atazanavir | 20 | 67 | 2017 | 2031 |
| Azithromycin | 8 | 28 | 2018 | 2022 |
| Bevacizumab | 9 | 16 | 2017 | 2019 |
| Didanosine | 20 | 44 | 2015 | 2024 |
| Efavirenz | 23 | 69 | 2015 | 2024 |
| Efavirenz + Emtricitabine + Tenofovir | 42 | 173 | 2015 | 2029 |
| Emtricitabine | 11 | 21 | 2015 | 2022 |
| Emtricitabine + Tenofovir | 41 | 95 | 2017 | 2024 |
| Lamivudine + Nevirapine + Stavudine | 22 | 65 | 2021 | 2028 |
| Lamivudine + Nevirapine + Zidovudine | 34 | 34 | 2017 | 2018 |
| Lopinavir + ritonavir | 38 | 135 | 2016 | 2028 |
| Omeprazole | 6 | 8 | 2015 | 2022 |
| Oseltamivir | 7 | 19 | 2016 | 2018 |
| Pegylated interferon alfa 2a | 60 | 60 | 2017 | 2019 |
| Pegylated interferon alfa 2b | 14 | 29 | 2016 | 2022 |
| Ritonavir | 38 | 153 | 2016 | 2028 |
| Saquinavir | 28 | 28 | 2024 | 2024 |
| Tenofovir | 11 | 52 | 2015 | 2029 |

Figure 2:

NUMBER OF ACTIVE PATENTS FOR PATENTED HIV/AIDS MEDICINES ON THE 2013 MLEM



5.3 COLLECTIVE PATENT COVERAGE OF THE 20 PRODUCTS ON THE 2013 MLEM MEDICINES BY LEVEL OF DEVELOPMENT AND OTHER FACTORS

When the 20 patent data reports are taken as a whole (rather than by each medicine individually), patterns are more readily apparent. In Table 3, 23 per cent of the cells list one or more patents; this statistic provides an overall sense and cross-sectional snapshot of the collective coverage of the patent estates of the 20 medicines at their current age, across products and countries. When we stratified by level of development or income, our results appeared to show a correlation between patenting and these variables similar to that observed in earlier studies (Attaran 2004; Cavicchi and Kowalski 2009, 2011). Regardless of whether we used the World Bank classification of income or the Human Development Index (HDI), the qualitative relationship is the same (Figure 3 uses the latter).

The bars in Figure 3 represent the collective patent coverage of the 20 MLEM medicines in the 137 countries (i.e., cells with numbers in Table 3) versus those where there is none (i.e., blank cells in Table 3). The purpose of this exhibit is to compare the patent coverage

between the three HDI categories. Higher development status correlates with higher presence of patenting: low HDI at 14 per cent, medium at 24 per cent and high at 45 per cent. There are however confounding variables in this observation: for example, those countries with low HDI typically have smaller populations, which would be expected to lead to a lower number of patent filings.

5.4 A CLOSER LOOK AT THE OUTLIERS IN THE NUMBER OF PATENT FILINGS

Of the 137 countries included in this study, no patent filings relevant to the MLEM were found for 44 countries (about one-third). A list of these countries is included in Annex 1. Generally, these countries have relatively small populations, albeit with certain exceptions, such as Bangladesh and Ethiopia. Many of the filings in low-resource settings were done using one of the African regional patent systems, the African Regional Intellectual Property Organization (ARIPO) or the Organisation Africaine de la Propriété Intellectuelle (OAPI) (English: African Intellectual Property Organization or AIPO), rather than country-by-country. A large number of African Member States (of WIPO) rely heavily on these systems to receive patent filings.

The apparent correlation between wealth and/or population size and patent filings is clearest among countries with a relatively high number of patent filings relevant to medicines appearing on the MLEM.

Table 5 shows the top 20 countries for patent filings – all of which have a medium or high HDI and many of which have large populations.

Table 5 gives the impression that patent filing follows market opportunity. There is also the impression that patent filing is linked to pharmaceutical production capacities, since even some countries with the ability to manufacture medicines have many patent filings, despite relatively lower spending on health (e.g., India, Indonesia, the Philippines and Thailand). This may be because originator companies wish to suppress the emergence of competition. The apparent third contributing factor is membership in a regional patent regime. The European and Eurasian countries appearing on this list may also have higher filings given their membership in those respective regional patent organizations (i.e. the European Patent Office (EPO) and the Eurasian Patent Organization (EAPO) respectively). Further statistical study, not performed here, could better elucidate whether these factors that we identify are actually drivers of patenting behavior.

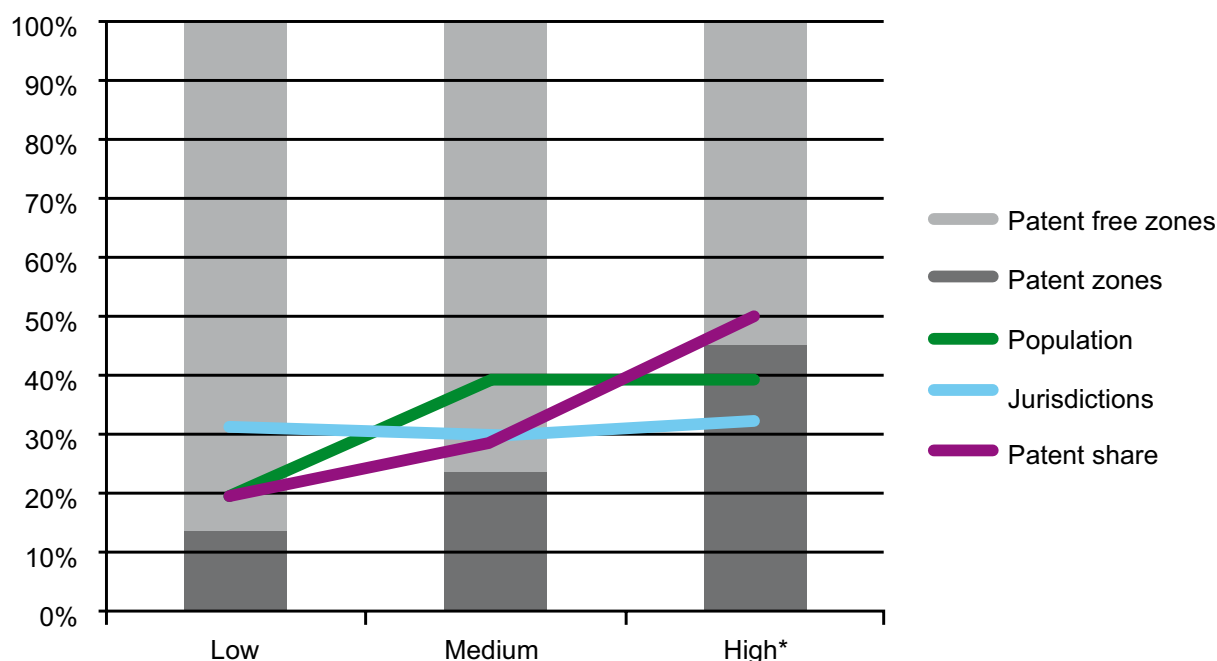
5.5 CONCORDANCE BETWEEN THE MLEM PATENT DATA REPORTS BEFORE AND AFTER SUPPLIER COMPANY VALIDATION

In order to investigate the accuracy of the data that we obtained from INPADOC and Derwent databases prior to company validation, we undertook a concordance study. Using company-validated data as the gold standard, in our hands only 70 per cent of our positive results on based international patent databases correctly showed active patent filings (i.e., predictive value positive), meaning 30 per cent of the positive results were wrong. Likewise in our hands, 89 per cent of our negative results on based international patent databases correctly showed no patent filings whatsoever (i.e., predictive value negative), meaning 11 per cent of the negative results were incorrect. International patent databases over-estimate patent protection in developing countries more often than they under-estimate it.

To be sure, these findings reflect both the correctness of the INPADOC and Derwent databases, as well as our skill in using them. However, assuming that we are reasonably skilled, the findings underscore the difficulty of determining the patent status of a medicine in developing countries as a third party – even one with access to expensive, proprietary databases such as these. The implication is that only patent holders themselves truly have an accurate picture of their patent holdings.

Figure 3:

PATENT PERVASIVENESS BY HUMAN DEVELOPMENT INDEX GROUP



* An HDI category of "high" is mostly upper-middle income countries, according to the World Bank. This study did not include countries in the "very high" HDI category.

Table 5:

TOP 20 COUNTRIES FOR PATENT FILINGS OF MEDICINES APPEARING ON THE MLEM

| Country | Region | Filings | # of MLEM drugs patented | HDI | Population in 1000s | Health spending per capita (rank relative to other 137 nations in study) |
|-----------------|---------------------------|---------|--------------------------|--------|---------------------|--|
| China | East Asia & Pacific | 134 | 16 | High | 1401586.60 | \$373 (49 th) |
| Mexico | Latin America & Caribbean | 111 | 18 | High | 125235.58 | \$962 (9 th) |
| Romania | Europe & Central Asia | 79 | 16 | High | 21579.20 | \$881 (12 th) |
| Philippines | East Asia & Pacific | 71 | 13 | Medium | 101802.70 | \$164 (79 th) |
| Bulgaria | Europe & Central Asia | 67 | 14 | High | 7112.64 | \$1,057 (6 th) |
| Brazil | Latin America & Caribbean | 62 | 13 | High | 203657.21 | \$1,009 (8 th) |
| Turkey | Europe & Central Asia | 61 | 12 | High | 76690.51 | \$1,039 (7 th) |
| India | South Asia | 60 | 11 | Medium | 1282390.30 | \$126 (88 th) |
| South Africa | Sub-Saharan Africa | 50 | 15 | Medium | 53491.33 | \$915 (10 th) |
| Indonesia | East Asia & Pacific | 38 | 12 | Medium | 255708.79 | \$123 (89 th) |
| Serbia | Europe & Central Asia | 37 | 9 | High | 9424.03 | \$1,176 (4 th) |
| Albania | Europe & Central Asia | 37 | 10 | High | 3196.98 | \$515 (34 th) |
| Macedonia, FYR | Europe & Central Asia | 37 | 10 | High | 2109.25 | \$758 (18 th) |
| Malaysia | East Asia & Pacific | 32 | 10 | High | 30651.18 | \$645 (22 nd) |
| Ukraine | Europe & Central Asia | 28 | 11 | High | 44646.13 | \$527 (31 st) |
| Belarus | Europe & Central Asia | 24 | 7 | High | 9259.67 | \$762 (17 th) |
| Colombia | Latin America & Caribbean | 24 | 8 | High | 49529.21 | \$614 (26 th) |
| Thailand | East Asia & Pacific | 24 | 8 | High | 67400.75 | \$331 (54 th) |
| Azerbaijan | Europe & Central Asia | 23 | 7 | High | 9612.58 | \$520 (33 rd) |
| Kyrgyz Republic | Europe & Central Asia | 23 | 7 | Medium | 5707.53 | \$152 (82 nd) |

Section 6:

Conclusions and Policy Implications

This report was commissioned by WIPO in order to evaluate which medicines on the 2013 MLEM are patented, how they are patented, and where they are patented in low- and middle-income countries. We find that 20 of the 375 MLEM medicines (about five per cent) are under patent protection in the United States and Canada. The other 95 per cent had no evidence of patents that we discerned according to our methodology.

As of 2015, we found that seven of the 20 patented medicines (two per cent) had active compound patents according to the Merck Index (Royal Society of Chemistry 2015), which are the sort of patent most likely to block generic competition (detailed in Table 2). This figure is comparable to, though lower than, the Cavicchi and Kowalski Assessment of the 2009 edition of the MLEM (Cavicchi and Kowalski 2009); they found that nine of 350 (3 per cent) medicines had live compound patents. Attaran found in 2004 that 19 of 319 (six per cent) medicines on the MLEM had live compound patents. This slow decline over the past decade is largely reflective of the expiration of the compound patents on several HIV/AIDS medicines. During the publication of this study, the 2015 edition of the MLEM was published, preliminary data for which is in Annex 3 (WHO 2015c). It includes many new additions, such as several young medicines for tuberculosis, hepatitis, and cancer. Our preliminary assessment found that 34 of 409 products on the 2015 MLEM may be considered patented according to our methodology; 19 of these 403 medicines (5 per cent) had live compound patents according to the Merck Index in 2015. While there has been fluctuation, the percentage of medicines on the MLEM with compound patent protection has consistently been in the single digits.

Nevertheless, with respect to the subset of seven medicines in the 2013 MLEM that we found to have active compound patent protection in 2015 we note that because all these patent filings predate the 2005 implementation of TRIPS-level patent protection in major medicine-exporting developing countries, generic competition can exist. Using WHO data, we found evidence of generics for four of these seven medicines, although not for some which may face non-patent barriers to generic production (e.g., bevacizumab).

No patent filings were found for about one-third of the countries (44 of 137) in respect of any of the 20 medicines in question, but for those with patents,

certain trends are discernible. For low-HDI countries, the extent of patent coverage was a median of 14 per cent, but in middle and high-HDI countries this rises to 24 and 45 per cent respectively. The smallest population covered by our study resides in low-HDI countries (where patent protection is relatively low) whereas the largest population resides in high-HDI countries (where patent protection is relatively high). At a more granular level, and almost certainly co-varying with development level, countries with a higher per capita income, per capita health spending, domestic pharmaceutical production capacity, larger populations, and membership in a regional patent regime are more likely to have patents. When these factors are taken together, patent filings tend to follow market and manufacturing opportunities.

Given that low-HDI countries (20 per cent of the population covered by this study) generally have fewer patent filings, the primary concern of these countries as medicine consumers will typically not be patent protection in their own jurisdiction, but rather patent protection in the pharmaceutical-manufacturing countries that export generics. To be sure, there are many other infrastructural challenges frustrating access to medicine in the low HDI countries besides patent protection that may require more urgent and immediate attention (e.g., serving remote areas with lifesaving, off-patent medicines). Since the commercial value of low HDI countries to pharmaceutical manufacturers is low, it often will be possible in these countries for suppliers to effectively remove patent barriers, whether by voluntary licensing, or simply not enforcing the few patents that may exist (32).

Indeed, several companies whose products were examined in this study are already pursuing or are actively employing such approaches for specific products (e.g., Abbvie, GSK, Gilead, Merck Sharp & Dohme, Novartis and Roche). These targeted approaches offer a pragmatic and collaborative avenue for companies to find a mutually beneficial arrangement that will accelerate the diffusion of affordable, patent-protected essential medicines. Getting these arrangements right is easier said than done; as experience accumulates, however, such agreements have good potential for achieving favorable outcomes.

Compulsory licensing can also provide flexibility in accordance with domestic and international laws, including the WTO's TRIPS Agreement and the Doha Declaration. Compulsory licensing is when a government allows someone else to produce the patented product or process without the consent of the patent owner (WTO 2006), although more collaborative approaches may prove more cost-effective depending on circumstances (Beall et al. 2015).

However, we note that much of the pressure for compulsory licensing may result from simple misunderstanding of where patents exist—because knowing this accurately is very difficult. There is no international medicine patent register, analogous to the national medicine patent registers in the United States and Canada. Further, researching patent status is extremely difficult to do accurately, and as we found, proprietary databases (e.g., INPADOC and Derwent) do not always contain entirely correct and accurate information. In our hands, which are presumably more skilled than most, these databases led us to findings different from that reported by the medicine supplier (30 per cent of the positive results were wrong and 11 per cent of the negative results were incorrect).

Misinformation on patent status can impact public health by obscuring the actual landscape for policy-makers, leading to misspent effort by medicine importers, exporters, manufacturers and governmental or non-governmental health actors. It also can lead to escalation of tensions as it did in the early 2000s when it was widely believed, incorrectly, that patents on antiretroviral medicines were ubiquitous across Africa, blocking access to AIDS treatment. Provided that it had the support of participants, an international medicine patent register would create transparency beneficial to all. This policy option should be explored by WIPO in the future, bearing in mind that it will be a matter of individual companies' preference whether to participate. (We hope that most would, and are encouraged by the very high degree of cooperation that we received in this study from most of the pharmaceutical industry.)

Strangely, the public health community has not placed much priority on patent transparency, although it has often expressed concern about the effect of patents on medicine access. Patent transparency is not a part of the WHO's Access to Medicines Framework (WHO 2004). There is a patent transparency component of the Access to Medicines Index (Access to medicine index 2015), which evaluates the top 20 global suppliers of medicines on the basis of their accessibility policies, but it appears to be hortatory only and to lack a normative basis by which companies are scored on this criterion. We consider these serious omissions, since it is barren to entertain the hypothesis that patents interfere with access to medicines, without, at the same time, improving the empirical basis for understanding how and when this might occur, so as to fashion evidence-based solutions that are deployed accurately and effectively to improve access.

The global demographic transition toward a higher prevalence of non-communicable diseases means that more patented products are likely to be on the MLEM in the future. This is already apparent in the addition of four medicines for treating cancer in the recently

published 2015 MLEM with active compound patent protection (filgrastim, imatinib, rituximab, trastuzumab) (Royal Society of Chemistry 2015). This provides more opportunities to choose new collaborations over conflict (whether in the form of licensing agreements or more creative solutions not yet envisaged) and to avoid repeating past friction between advocates for essential medicines access and advocates for patent protection during the HIV/AIDS crisis. We believe that empirical patent data, such as we present here, can help both sorts of advocates focus on their interests rather than their ideology, which ultimately is the best way forward for all concerned.

Section 7:

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Acknowledgements

We are grateful to Prof. Stanley P. Kowalski, International Technology Transfer Institute, School of Law, University of New Hampshire, for his generous help and guidance in the development of the methodology for this project. We would also like to express our appreciation to the participating pharmaceutical firms and their personnel for validating our patent data for this important endeavor. Finally, we are pleased to acknowledge the helpful and supportive comments of Anatole Krattiger and Thomas Bombelles, Global Challenges Division, WIPO, throughout the drafting and editing process of this report.

Annex 1:

Countries with no Patent Filings Relevant to the 2013 MLEM Products

| Country | Region | HDI | World Bank Classification* | Population (in 1,000s) |
|----------------------------------|----------------------------|--------|----------------------------|------------------------|
| Afghanistan | South Asia | Low | Low | 32006.788 |
| American Samoa | East Asia & Pacific | n/a | Upper-middle | 55.538 |
| Angola | Africa | Low | Upper-middle | 22819.926 |
| Bangladesh | South Asia | Medium | Low | 160411.249 |
| Belize | Latin America & Caribbean | High | Upper-middle | 347.598 |
| Bhutan | South Asia | Medium | Lower-middle | 776.461 |
| Bolivia | Latin America & Caribbean | Medium | Lower-middle | 11024.522 |
| Cabo Verde | Sub-Saharan Africa | Medium | Lower-middle | 508.315 |
| Cambodia | East Asia & Pacific | Medium | Low | 15677.059 |
| Djibouti | Middle East & North Africa | Low | Lower-middle | 899.658 |
| Dominica | Latin America & Caribbean | High | Upper-middle | 72.68 |
| Eritrea | Sub-Saharan Africa | Low | Low | 6737.634 |
| Ethiopia | Sub-Saharan Africa | Low | Low | 98942.102 |
| Fiji | East Asia & Pacific | High | Upper-middle | 892.727 |
| Grenada | Latin America & Caribbean | High | Upper-middle | 106.694 |
| Haiti | Latin America & Caribbean | Low | Low | 10603.731 |
| Iraq | Middle East & North Africa | Medium | Upper-middle | 35766.702 |
| Kiribati | East Asia & Pacific | Medium | Lower-middle | 105.555 |
| Lao People's Democratic Republic | East Asia & Pacific | Medium | Lower-middle | 7019.652 |
| Libya | Middle East & North Africa | High | Upper-middle | 6317.08 |
| Madagascar | Sub-Saharan Africa | Low | Low | 24235.39 |
| Maldives | South Asia | Medium | Upper-middle | 357.981 |
| Marshall Islands | East Asia & Pacific | n/a | Upper-middle | 52.993 |
| Micronesia (Federated States of) | East Asia & Pacific | Medium | Lower-middle | 519.376 |
| Mongolia | East Asia & Pacific | Medium | Lower-middle | 2923.05 |
| Myanmar | East Asia & Pacific | Low | Low | 54164.262 |
| Nepal | South Asia | Low | Low | 28440.629 |
| Palau | East Asia & Pacific | High | Upper-middle | 21.291 |
| Palestine, State of | Middle East & North Africa | Medium | n/a | |
| Papua New Guinea | East Asia & Pacific | Low | Lower-middle | 7631.819 |
| Saint Lucia | Latin America & Caribbean | High | Upper-middle | 184.937 |
| Saint Vincent and the Grenadines | Latin America & Caribbean | High | Upper-middle | 109.374 |
| Samoa | East Asia & Pacific | Medium | Lower-middle | 193.228 |
| Seychelles | Sub-Saharan Africa | High | Upper-middle | 93.754 |
| Solomon Islands | East Asia & Pacific | Low | Lower-middle | 584.482 |
| South Sudan | Sub-Saharan Africa | n/a | Lower-middle | 12,152 |
| Suriname | Latin America & Caribbean | High | Upper-middle | 548 |
| Syrian Arab Republic | Middle East & North Africa | Medium | Lower-middle | 22264.996 |
| Timor-Leste | East Asia & Pacific | Medium | Lower-middle | 1172.668 |
| Tonga | East Asia & Pacific | High | Upper-middle | 106.379 |
| Tuvalu | East Asia & Pacific | n/a | Upper-middle | 9.916 |
| Vanuatu | East Asia & Pacific | Medium | Lower-middle | 263.888 |
| West Bank and Gaza | Middle East & North Africa | n/a | Lower-middle | |
| Yemen | Middle East & North Africa | Low | Lower-middle | 25535.086 |

* Low income is defined as USD1,045 or less per capita, lower-middle is USD1,046 to USD4,125, and upper-middle is USD4,126 to USD12,745.

Annex 2:

Individual Patent Data Tables for the 2013 WHO MLEM

ABACAVIR (GSK)

| Country | Publication # | Status | Expiration |
|---------------------|---------------|-------------|------------|
| Algeria | 2493 | Grant | 17-May-18 |
| | 2767 | Grant | 13-Apr-19 |
| Antigua and Barbuda | 01/2002 | Grant | 14-May-18 |
| Argentina | AR015668 | Grant | 14-May-18 |
| | AR059120 | Grant | 14-May-18 |
| | AR016395B1 | Grant | 21-Aug-18 |
| | AR014921B1 | Grant | 13-Oct-18 |
| | AR017455B1 | Grant | 03-Feb-19 |
| Armenia | EA001809 | Grant | 14-May-18 |
| | EA1964 | Grant | 20-Aug-18 |
| | EA3183 | Grant | 14-Oct-18 |
| | EA2916 | Grant | 04-Feb-19 |
| Azerbaijan | EA001809 | Grant | 14-May-18 |
| | 1964 | Grant | 20-Aug-18 |
| | 3183 | Grant | 14-Oct-18 |
| | 2916 | Grant | 04-Feb-19 |
| Barbados | BB0000033A | Grant | 14-Oct-18 |
| Belarus | EA001809 | Grant | 14-May-18 |
| | EA001809 | Grant | 14-May-23 |
| | 1964 | Grant | 20-Aug-18 |
| | 3183 | Grant | 14-Oct-18 |
| | 2916 | Grant | 04-Feb-19 |
| Brazil | PI9809126.3 | Application | 14-May-18 |
| | PI9810472-1 | Grant | 11-Jan-21 |
| | PI9813048-0 | Grant | 13-Jul-20 |
| | PI9907649.7 | Grant | 04-Feb-19 |
| Bulgaria | 64390 | Grant | 14-May-18 |
| | 64597 | Grant | 14-Oct-18 |
| Burundi | RP.4.2002 | Grant | 14-May-18 |
| China | ZL98807073.1 | Grant | 13-May-18 |
| | ZL03102921.3 | Grant | 13-May-18 |
| | ZL98806479.0 | Grant | 19-Aug-18 |
| | ZL98812152.2 | Grant | 13-Oct-18 |
| Colombia | 28448 | Grant | 04-Feb-19 |
| Ecuador | PI08-1913 | Grant | 14-May-18 |
| Egypt | 23836 | Grant | 13-May-18 |
| El Salvador | 188Book3 | Grant | 15-May-18 |
| | E.40.99 | Application | 13-Apr-19 |
| Gambia | AP2009 | Grant | 14-May-18 |
| | AP1104 | Grant | 20-Aug-18 |
| | AP1182 | Grant | 14-Oct-18 |
| | AP1212 | Grant | 04-Feb-19 |
| Georgia | P2680 | Grant | 14-May-18 |
| | GEP2679 | Grant | 14-Oct-18 |
| Ghana | AP2009 | Grant | 14-May-18 |
| | AP1104 | Grant | 20-Aug-18 |
| | AP1182 | Grant | 14-Oct-18 |
| | AP1212 | Grant | 04-Feb-19 |
| Guatemala | 4700 | Grant | 20-May-18 |
| | 4978 | Grant | 13-Apr-19 |
| Honduras | 3777 | Grant | 14-May-18 |
| | 3785 | Grant | 14-Apr-19 |
| Hungary | 226563 | Grant | 14-May-18 |
| | 222657 | Grant | 20-Aug-18 |
| | 228315 | Grant | 04-Feb-19 |
| India | 183908 | Grant | 21-Aug-18 |
| | 184590 | Grant | 13-Oct-18 |
| | 212734 | Grant | 04-Feb-19 |

ABACAVIR (GSK) - Continued

| Country | Publication # | Status | Expiration |
|----------------------|---------------|--------|------------|
| Indonesia | ID0011367 | Grant | 14-May-18 |
| | ID0010055 | Grant | 20-Aug-18 |
| | ID0009275 | Grant | 14-Oct-18 |
| | ID0011128 | Grant | 04-Feb-19 |
| Jamaica | 3410 | Grant | 26-Mar-17 |
| | 3278 | Grant | 22-Jan-16 |
| | 3575 | Grant | 18-Sep-17 |
| Jordan | 2032 | Grant | 16-May-18 |
| | 2090 | Grant | 14-Apr-19 |
| Kazakhstan | EA001809 | Grant | 14-May-18 |
| | 1964 | Grant | 20-Aug-18 |
| | 3183 | Grant | 14-Oct-18 |
| | 2916 | Grant | 04-Feb-19 |
| Kenya | AP2009 | Grant | 14-May-18 |
| | AP1104 | Grant | 20-Aug-18 |
| | AP1182 | Grant | 14-Oct-18 |
| | AP1212 | Grant | 04-Feb-19 |
| Kyrgyzstan | EA001809 | Grant | 14-May-18 |
| | 1964 | Grant | 20-Aug-18 |
| | 3183 | Grant | 14-Oct-18 |
| | 2916 | Grant | 04-Feb-19 |
| Lebanon | 5955 | Grant | 09-May-18 |
| | 6040 | Grant | 13-Apr-19 |
| Lesotho | AP2009 | Grant | 14-May-18 |
| | AP1104 | Grant | 20-Aug-18 |
| | AP1182 | Grant | 14-Oct-18 |
| Malawi | AP2009 | Grant | 14-May-18 |
| | AP1104 | Grant | 20-Aug-18 |
| | AP1182 | Grant | 14-Oct-18 |
| | AP1212 | Grant | 04-Feb-19 |
| Malaysia | MY-120151-A | Grant | 30-Sep-20 |
| | MY-127470-A | Grant | 29-Dec-21 |
| Malaysia | MY-121043-A | Grant | 30-Dec-20 |
| Mauritius | 00024/2012 | Grant | 11-May-18 |
| Mexico | 219275 | Grant | 14-May-18 |
| | 213642 | Grant | 20-Aug-18 |
| | 220762 | Grant | 14-Oct-18 |
| | 220333 | Grant | 04-Feb-19 |
| Moldova, Republic of | EA001809 | Grant | 14-May-18 |
| | 1964 | Grant | 20-Aug-18 |
| | 3183 | Grant | 14-Oct-18 |
| | 2916 | Grant | 04-Feb-19 |
| Morocco | 26498 | Grant | 15-May-18 |
| | 24676 | Grant | 13-Oct-18 |
| | 26604 | Grant | 04-Feb-19 |
| Mozambique | AP1212 | Grant | 04-Feb-19 |
| Nicaragua | 1197RPI | Grant | 14-May-18 |
| | 1580RPI | Grant | 14-Apr-19 |
| Nigeria | RP.13708 | Grant | 15-May-18 |
| Pakistan | 141284 | Grant | 17-May-17 |
| Panama | 84513-01 | Grant | 14-May-18 |
| | 84706-01 | Grant | 13-Apr-19 |
| Peru | 2472 | Grant | 14-May-18 |
| | 2607 | Grant | 12-Oct-18 |
| | 2842 | Grant | 03-Feb-19 |
| Philippines | 1.1989.38847 | Grant | 23-Nov-18 |
| | 1-1995-49893 | Grant | 05-May-22 |
| | 1-2003-00078 | Grant | 08-Nov-22 |

ABACAIVIR (GSK) - Continued

| Country | Publication # | Status | Expiration |
|-----------------------------------|----------------|-------------|------------|
| Philippines | 1-1998-01172 | Grant | 15-May-18 |
| | 1-1998-02169 | Grant | 21-Aug-18 |
| | 1-1998-02655 | Grant | 14-Oct-18 |
| | 1-1999-00225 | Grant | 04-Feb-19 |
| Romania | EP1051156 | Grant | 04-Feb-19 |
| Russian Federation | 1964 | Grant | 20-Aug-18 |
| | 3183 | Grant | 14-Oct-18 |
| | 2916 | Grant | 04-Feb-19 |
| Sierra Leone | AP2009 | Grant | 14-May-18 |
| | AP1104 | Grant | 20-Aug-18 |
| | AP1182 | Grant | 14-Oct-18 |
| | AP1212 | Grant | 04-Feb-19 |
| South Africa | 98.4085 | Grant | 14-May-18 |
| | 98.9338 | Grant | 13-Oct-18 |
| | 99.089 | Grant | 04-Feb-19 |
| Sri Lanka | 11955 | Grant | 23-May-15 |
| | 12054 | Grant | 18-Dec-15 |
| | 12147 | Grant | 29-Aug-18 |
| Sudan | AP1104 | Grant | 20-Aug-18 |
| | AP1182 | Grant | 14-Oct-18 |
| | AP1212 | Grant | 04-Feb-19 |
| Swaziland | AP2009 | Grant | 14-May-18 |
| | AP1104 | Grant | 20-Aug-18 |
| | AP1182 | Grant | 14-Oct-18 |
| | AP1212 | Grant | 04-Feb-19 |
| Tajikistan | EA001809 | Grant | 14-May-18 |
| | 1964 | Grant | 20-Aug-18 |
| | 3183 | Grant | 14-Oct-18 |
| | 2916 | Grant | 04-Feb-19 |
| Thailand | 43847 | Application | 14-May-18 |
| | 39837 | Grant | 02-Feb-19 |
| Trinidad and Tobago | TT/A/05/00071 | Grant | 14-May-18 |
| | TT/P/200500097 | Grant | 14-Oct-18 |
| Tunisia | 18129 | Grant | 15-May-18 |
| | 18233 | Grant | 13-Apr-19 |
| Turkey | TR199902810 | Grant | 14-May-18 |
| | TR199903210B | Grant | 20-Aug-18 |
| | TR200000976B | Grant | 14-Oct-18 |
| | TR200002293B | Grant | 04-Feb-19 |
| Turkmenistan | EA001809 | Grant | 14-May-18 |
| | 1964 | Grant | 20-Aug-18 |
| | 3183 | Grant | 14-Oct-18 |
| | 2916 | Grant | 04-Feb-19 |
| Uganda | AP2009 | Grant | 14-May-18 |
| | AP1104 | Grant | 20-Aug-18 |
| | AP1182 | Grant | 14-Oct-18 |
| Ukraine | AP1212 | Grant | 04-Feb-19 |
| | 56231 | Grant | 14-May-18 |
| Uruguay | UA54550 | Grant | 14-Oct-18 |
| | 14.072 | Grant | 15-May-18 |
| Venezuela, Bolivarian Republic of | 1042 | Application | 15-May-18 |
| | 150.99 | Application | 02-Feb-19 |
| Zimbabwe | AP2009 | Grant | 14-May-18 |
| | AP1104 | Grant | 20-Aug-18 |
| | AP1182 | Grant | 14-Oct-18 |
| | AP1212 | Grant | 04-Feb-19 |

ABACAIVIR (GSK) - Continued

| Country | Publication # | Status | Expiration |
|---------|---------------|--------|------------|
| ARIPO | AP2009 | Grant | 14-May-18 |
| | AP1104 | Grant | 20-Aug-18 |
| | AP1182 | Grant | 14-Oct-18 |
| | AP1212 | Grant | 04-Feb-19 |
| EAPC | EA001809 | Grant | 14-May-18 |
| | EA1964 | Grant | 20-Aug-18 |
| | EA3183 | Grant | 14-Oct-18 |
| | EA2916 | Grant | 04-Feb-19 |
| EPO | EP1051156 | Grant | 04-Feb-19 |

ARTEMETHER + LUMEFANTRINE (NOVARTIS)

| Country | Publication # | Status | Expiration |
|----------|---------------|--------|------------|
| Botswana | P/2000/00021 | Grant | 23-Apr-18 |

ATAZANAVIR (GSK)

| Country | Publication # | Status | Expiration | |
|---------------|-------------------|---------------|------------|-----------|
| Argentina | AR14417 | Grant | 18-Jan-19 | |
| | AR48937 | Grant | 03-May-25 | |
| | AR6720 | Grant | 21-Apr-17 | |
| Brazil | BR199701877 | Grant | 22-Apr-17 | |
| | BR200509595 | Grant | 03-May-25 | |
| | PI0112820.5 | Application | 20-Jul-21 | |
| Bulgaria | PI0113236.922 | Grant | 22-Apr-24 | |
| | BG104618 | Grant | 20-Oct-17 | |
| | BG64774 | Grant | 17-Jul-20 | |
| | 2170292 | Grant | 20-Jun-28 | |
| | 2178513 | Grant | 20-Jun-28 | |
| | China | CN101565398 | Grant | 03-May-25 |
| CN1116282 | | Grant | 22-Dec-18 | |
| CN1216539 | | Grant | 14-Apr-17 | |
| CN1283188 | | Grant | 22-Dec-18 | |
| CN1319587 | | Grant | 14-Apr-17 | |
| CN1616453 | | Grant | 14-Apr-17 | |
| CN1980666 | | Grant | 03-May-25 | |
| ZL01814164.1 | Grant | 20-Jul-21 | | |
| Colombia | 01814196.X | Grant | 20-Jul-21 | |
| | CO4970820 | Grant | 19-Jan-19 | |
| Ecuador | SP992834 | Grant | * | |
| Egypt | EG23936 | Grant | 17-Jan-19 | |
| Georgia | GEP20033026 | Grant | 22-Dec-18 | |
| Hungary | HU200101389 | Grant | 22-Dec-18 | |
| | HU224125/EP900210 | Grant | 14-Apr-17 | |
| | 229795 | Grant | 20-Jul-21 | |
| | 229795 | Grant | 20-Jul-21 | |
| | 229338 | Grant | 20-Jul-21 | |
| | 2170292 | Grant | 20-Jun-28 | |
| | 2178513 | Grant | 20-Jun-28 | |
| | India | IN200606425P1 | Grant | 01-Nov-26 |
| | | IN200803235I4 | Grant | 22-Dec-28 |
| IN200902933P1 | | Grant | 01-May-29 | |

ATAZANAVIR (GSK) - Continued

| Country | Publication # | Status | Expiration | |
|--------------------|--|-------------------|------------|-----------|
| India | 210496 | Grant | 20-Jul-21 | |
| | 206217 | Grant | 20-Jul-21 | |
| | 8328/DELNP /2009A | Application | 20-Jun-28 | |
| | 8332/DELNP /2009A | Application | 20-Jun-28 | |
| | 9097/CHENP/12 | Application | 07-Apr-31 | |
| | 310/CHE/2007 | Application | 21-Apr-17 | |
| | 3234/CHE/2008 | Application | 21-Apr-17 | |
| | 3235/CHE/2008 | Application | 21-Apr-17 | |
| | Indonesia | ID0009860025.018A | Grant | 22-Dec-18 |
| | Korea, Democratic People's Republic | 10-1153606 | Grant | 03-May-25 |
| 486051 | | Grant | 14-Apr-17 | |
| Malaysia | MY114838 | Grant | 05-Jan-19 | |
| | MY114457 | Grant | 31-Oct-17 | |
| Mexico | MX2000006747 | Grant | 07-Jul-20 | |
| | MX2006012612 | Grant | 31-Oct-26 | |
| | MX2006PA012612 | Grant | 31-Oct-26 | |
| | MX207246 | Grant | 14-Apr-17 | |
| | MX215127 | Grant | 07-Jul-20 | |
| | MX274189 | Grant | 31-Oct-26 | |
| | 232127 | Grant | 20-Jul-21 | |
| | 245407 | Grant | 20-Jul-21 | |
| Pakistan | 312207 | Grant | 20-Jun-28 | |
| | 290355 | Grant | 20-Jun-28 | |
| | 141049 | Grant | 22-Apr-16 | |
| | 141065 | Grant | 22-Apr-16 | |
| | Philippines | PH1199756173 | Grant | 04-Jun-18 |
| Romania | PH1199803387 | Grant | 23-Dec-18 | |
| | RO118869 | Grant | 22-Dec-18 | |
| | EP900210 | Grant | 02-Mar-19 | |
| | 2170292 | Grant | 20-Jun-28 | |
| | 2178513 | Grant | 20-Jun-28 | |
| Russian Federation | RU2006142768 | Grant | 03-May-25 | |
| | RU2186070 | Grant | 22-Dec-18 | |
| | RU2385325 | Grant | 03-May-25 | |
| | 1749 | Grant | 14-Apr-17 | |
| South Africa | ZA199703387 | Grant | 21-Apr-17 | |
| | ZA199900056 | Grant | 05-Jan-19 | |
| | ZA200609084 | Grant | 31-Oct-26 | |
| Thailand | 44626 | Grant | 17-Apr-17 | |
| | 138538 | Application | 20-Jun-28 | |
| Turkey | TR200001876T2 | Grant | 22-Dec-18 | |
| | 1309535 | Grant | 20-Jul-21 | |
| | 2170292 | Grant | 20-Jun-28 | |
| | 2178513 | Grant | 20-Jun-28 | |
| Ukraine | UY25345A1 | Grant | 12-Jan-19 | |
| Vietnam | VN05/000854 | Grant | 04-May-25 | |
| | 000084-1999 | Grant | 20-Jan-19 | |
| EPO | EP900210B1 | Grant | 14-Apr-17 | |

* The company was still in the process of verifying this data point at the time of publication.

AZITHROMYCIN (INSITE) (eye drop formulation)*

| Country | Publication # | Status | Expiration |
|---|---------------|---------|------------|
| Albania | EP1028707 | unknown | 04-Nov-18 |
| | EP925789 | unknown | 12-Nov-18 |
| | EP1165058 | unknown | 27-Mar-20 |
| | EP1395215 | unknown | 24-Apr-22 |
| Bulgaria | EP1028707 | unknown | 04-Nov-18 |
| | EP925789 | unknown | 12-Nov-18 |
| | EP1165058 | unknown | 27-Mar-20 |
| Hungary | EP1395215 | unknown | 24-Apr-22 |
| | EP1028707 | unknown | 04-Nov-18 |
| | EP925789 | unknown | 12-Nov-18 |
| Macedonia, the former Yugoslav Republic of | EP1165058 | unknown | 27-Mar-20 |
| | EP1395215 | unknown | 24-Apr-22 |
| | EP1028707 | unknown | 04-Nov-18 |
| Mexico | EP1165058 | unknown | 27-Mar-20 |
| | EP1395215 | unknown | 24-Apr-22 |
| | EP1028707 | unknown | 04-Nov-18 |
| Romania | EP925789 | unknown | 12-Nov-18 |
| | EP1165058 | unknown | 27-Mar-20 |
| | EP1395215 | unknown | 24-Apr-22 |
| Serbia | EP1028707 | unknown | 04-Nov-18 |
| | EP925789 | unknown | 12-Nov-18 |
| | EP1165058 | unknown | 27-Mar-20 |
| South Africa | EP1395215 | unknown | 24-Apr-22 |
| | ZA200107454 | unknown | 10-Sep-21 |
| | EP1028707 | unknown | 04-Nov-18 |
| Turkey | EP925789 | unknown | 12-Nov-18 |
| | EP1165058 | unknown | 27-Mar-20 |
| | EP1395215 | unknown | 24-Apr-22 |
| EPO | EP1028707 | unknown | 04-Nov-18 |
| | EP925789 | unknown | 12-Nov-18 |
| | EP1165058 | unknown | 27-Mar-20 |
| | EP1395215 | unknown | 24-Apr-22 |

* These data were not validated by the supplier company.

BEVACIZUMAB (ROCHE)

| Country | Publication # | Status | Expiration |
|--|------------------|-------------|------------|
| Albania | AL/P/05/01469 | Grant | 03-Apr-18 |
| | AL/P/2012/4036 | Grant | 03-Apr-18 |
| Brazil | PI9809387.8 | Application | * |
| | PI9816306.0 | Application | * |
| | PI9816350.7 | Application | * |
| China | CN100480269 | Grant | 02-Apr-18 |
| | ZL200710197141.7 | Grant | 02-Apr-18 |
| | 201410411945.2 | Application | * |
| Georgia | PI5118 | Grant | 03-Apr-18 |
| Guyana | 1525 | Grant | 03-Apr-18 |
| Hungary | * | Grant | 28-Oct-17 |
| Macedonia, the former Yugoslav Republic of | P-20050152 | Application | * |
| | MK/P/2012/147 | Grant | 03-Apr-18 |
| Mexico | MX232447 | Grant | 03-Apr-18 |
| Romania | 1325932 | Grant | 16-Dec-19 |
| | 2301580 | Grant | 03-Apr-18 |
| South Africa | 98/2908 | Grant | 03-Apr-18 |

* The company was still in the process of verifying this data point at the time of publication.

DIDANOSINE (BMS)*

| Country | Publication # | Status | Expiration |
|-------------------------------------|-----------------|-------------|------------|
| Algeria | DZ2797 | Grant | 19-May-19 |
| Argentina | AR17747 | Grant | 21-May-19 |
| Botswana | BW/P/2002/00001 | Grant | 20-May-19 |
| | BW/P/04/00004 | Grant | 20-May-19 |
| | API206 | Grant | 04-Aug-18 |
| | AP200001988 | Grant | 04-Aug-18 |
| Brazil | PI9815861-9 | Grant | 04-Aug-18 |
| Bulgaria | BG65398 | Grant | 18-Dec-20 |
| | EP1079809 | Grant | 04-Aug-18 |
| | 65443 | Grant | 06-Aug-18 |
| China | CN1149075 | Grant | 04-Aug-18 |
| | CN1294509 | Grant | 04-Aug-18 |
| | ZL98814173.6 | Grant | 06-Aug-18 |
| Colombia | CO5070679 | Grant | 21-May-19 |
| | 840A | Application | 14-Jul-19 |
| Egypt | 58/99 | Grant | ** |
| | 23944 | Grant | 03-Jul-19 |
| Georgia | GEP20033014 | Grant | 04-Aug-18 |
| | P2912 | Grant | 06-Aug-18 |
| Hungary | HU200101714 | Grant | 04-Aug-18 |
| | HU211285 | Grant | 20-Jun-15 |
| | HU226491 | Grant | 04-Aug-18 |
| | EP1079809 | Grant | 04-Aug-18 |
| | 226492 | Grant | 06-Aug-18 |
| | PCT/US98/16323 | Application | 06-Aug-18 |
| Indonesia | ID0032672 | Grant | 04-Aug-18 |
| | ID0010163 | Grant | 06-Aug-18 |
| Kenya | 170 | Grant | 04-Aug-18 |
| | API206 | Grant | 04-Aug-18 |
| | AP200001988 | Grant | 04-Aug-18 |
| Korea, Democratic People's Republic | 484299 | Grant | 04-Aug-18 |
| Malaysia | MY138889 | Grant | 28-Aug-24 |
| Mexico | MX230618 | Grant | 08-Nov-20 |
| | MX248948 | Grant | 08-Nov-20 |
| | 218460 | Grant | 06-Aug-18 |

DIDANOSINE (BMS)* - Continued

| Country | Publication # | Status | Expiration |
|-----------------------------------|---------------|-------------|------------|
| Nigeria | RP13931 | Grant | 21-May-19 |
| Romania | RO121674 | Grant | 04-Aug-18 |
| | EP1079809 | Grant | 04-Aug-18 |
| | 121082 | Grant | 06-Aug-18 |
| Russian Federation | RU2197227 | Grant | 04-Aug-18 |
| | 2201217 | Grant | 06-Aug-18 |
| South Africa | ZA199903090 | Grant | ** |
| | 99/3446 | Grant | 20-May-19 |
| Thailand | 51671 | Grant | 17-May-19 |
| | 53977 | Application | 12-Jul-19 |
| Turkey | TR200003373T2 | Grant | 04-Aug-18 |
| | EP1079809 | Grant | 04-Aug-18 |
| | TR2004/00681B | Grant | 06-Aug-18 |
| | TR200003577B | Grant | 06-Aug-18 |
| Ukraine | UA69413 | Grant | 04-Aug-18 |
| | 73092 | Grant | 06-Aug-18 |
| Venezuela, Bolivarian Republic of | 000931-1999 | Grant | 20-May-19 |
| | 001407-1999 | Grant | 15-Jul-19 |
| ARIPO | API206 | Grant | 04-Aug-18 |
| | AP200001988 | Grant | 04-Aug-18 |
| EPO | EP1079809 | Grant | 04-Aug-18 |

* Didanosine was removed from the MLEM with the publication of the 2015 edition.

** The company was still in the process of verifying this data point at the time of publication.

EFAVIRENZ (BMS)

| Country | Publication # | Status | Expiration |
|------------|---------------|-------------|------------|
| Algeria | 0090-93 | Grant | * |
| Argentina | AR255251 | Grant | 27-Sep-16 |
| | AR018092 | Grant | 16-Feb-19 |
| Armenia | EA1805 | Grant | 02-Feb-18 |
| | EA3217 | Grant | 01-Apr-19 |
| | 2987 | Grant | 15-Dec-17 |
| Azerbaijan | EA1805 | Grant | 02-Feb-18 |
| | EA3217 | Grant | 01-Apr-19 |
| | 2987 | Grant | 15-Dec-17 |
| Belarus | EA1805 | Grant | 02-Feb-18 |
| | EA3217 | Grant | 01-Apr-19 |
| | 2987 | Grant | 15-Dec-17 |
| Brazil | BR199908810 | Grant | 01-Apr-19 |
| | PI9908132.6 | Grant | 17-Feb-19 |
| Bulgaria | BG99383 | Grant | 30-Jan-15 |
| | 08/003 | Application | * |
| China | CN1146419 | Grant | 01-Apr-19 |
| | ZL01122709.5 | Grant | 02-Feb-18 |
| | ZL98802171.4 | Grant | 02-Feb-18 |
| | CN1246113 | Grant | 02-Feb-18 |
| | CN1296412 | Grant | 01-Apr-19 |
| | ZL97181746.4 | Grant | 15-Dec-17 |
| | ZL99802950.5 | Grant | 17-Feb-19 |
| Hungary | HU200001313 | Grant | 02-Feb-18 |
| | HU200101517 | Grant | 01-Apr-19 |
| | HU228498 | Grant | 01-Apr-19 |
| | HU229087 | Grant | 02-Feb-18 |
| | EP1067936 | Grant | 01-Apr-19 |
| | EP975609 | Grant | 02-Feb-18 |
| | 225655 | Grant | 15-Dec-17 |
| | S0800004 | Application | * |

EFAVIRENZ (BMS) - Continued

| Country | Publication # | Status | Expiration |
|-------------------------------------|----------------|-------------|------------|
| Hungary | P0103819 | Application | 10-Jun-19 |
| India | 718/MUMNP/2003 | Application | 10-Jun-19 |
| | 737/MUMNP/2003 | Application | 10-Jun-19 |
| | 195367 | Grant | 10-Jun-19 |
| | 0553/MUM/00 | Application | 10-Jun-19 |
| Kazakhstan | EA1805 | Grant | 02-Feb-18 |
| | 2987 | Grant | 15-Dec-17 |
| Korea, Democratic People's Republic | 573192 | Grant | 02-Feb-18 |
| | 634253 | Grant | 01-Apr-19 |
| Kyrgyzstan | EA1805 | Grant | 02-Feb-18 |
| | EA3217 | Grant | 01-Apr-19 |
| | 2987 | Grant | 15-Dec-17 |
| Malaysia | MY-139034-A | Grant | 28-Aug-24 |
| Mexico | MX199907215 | Grant | 04-Aug-19 |
| | MX2000009817 | Grant | 06-Oct-20 |
| | MX217642 | Grant | 02-Feb-18 |
| | MX221379 | Grant | 06-Oct-20 |
| | MX245487 | Grant | 02-Feb-18 |
| | 208494 | Grant | 15-Dec-17 |
| | 261524 | Grant | 10-Jun-19 |
| 237977 | Grant | 17-Feb-19 | |
| Moldova, Republic of | EA1805 | Grant | 02-Feb-18 |
| | EA3217 | Grant | 01-Apr-19 |
| | 2987 | Grant | 15-Dec-17 |
| Montenegro | 49439 | Grant | * |
| Philippines | 1-1999-01423 | Grant | 10-Jun-19 |
| | 1-1999-00302 | Grant | 17-Feb-19 |
| Romania | EP1067936 | Grant | 01-Apr-19 |
| | EP975609 | Grant | 02-Feb-18 |
| | 120844 | Grant | 15-Dec-17 |
| | 2987 | Grant | 15-Dec-17 |
| | 113641 | Grant | * |
| | C2008011 | Grant | 06-Aug-18 |
| Russian Federation | EA1805 | Grant | 02-Feb-18 |
| | EA3217 | Grant | 01-Apr-19 |
| South Africa | ZA200004313 | Grant | 22-Aug-20 |
| | 2000/6173 | Grant | 10-Jun-19 |
| | 99/981 | Grant | 08-Feb-19 |
| Tajikistan | EA1805 | Grant | 02-Feb-18 |
| | EA3217 | Grant | 01-Apr-19 |
| | 2987 | Grant | 15-Dec-17 |
| Turkey | 582455 | Grant | * |
| Turkmenistan | EA1805 | Grant | 02-Feb-18 |
| | EA3217 | Grant | 01-Apr-19 |
| | 2987 | Grant | 15-Dec-17 |
| Ukraine | UA72207 | Grant | 01-Apr-19 |
| | 42699 | Grant | 06-Aug-18 |
| | 74324 | Grant | 10-Jun-19 |
| Vietnam | 3717 | Grant | 01-Apr-19 |
| | 97/11256 | Grant | 15-Dec-17 |
| | 4181 | Grant | 10-Jun-19 |
| EAPC | EA1805 | Grant | 02-Feb-18 |
| | EA3217 | Grant | 01-Apr-19 |
| EPO | EP1067936 | Grant | 01-Apr-19 |
| | EP975609 | Grant | 02-Feb-18 |

* The company was still in the process of verifying this data point at the time of publication.

EFAVIRENZ + EMTRICITABINE + TENOFOVIR (GILEAD)*

| Country | Publication # | Status | Expiration |
|------------|---------------|-----------|------------|
| Albania | EP1243590 | active | 23-Jul-18 |
| | EP1243593 | active | 23-Jul-18 |
| | EP1583542 | active | 13-Jan-24 |
| | EP1890681 | active | 13-Jun-26 |
| | EP915894 | active | 25-Jul-17 |
| | EP975609 | active | 02-Feb-18 |
| | EP998480 | active | 23-Jul-18 |
| | EP513200 | active | 31-Jan-16 |
| | AR40805 | active | 14-Jan-24 |
| Argentina | AR43332 | active | 14-Jan-24 |
| | AR54060 | active | 12-Jun-26 |
| | AR54511 | active | 12-Jun-26 |
| Armenia | EA15145 | active | 13-Jan-24 |
| | EA17764 | active | 13-Jun-26 |
| | EA1805 | active | 02-Feb-18 |
| Azerbaijan | EA15145 | active | 13-Jan-24 |
| | EA17764 | active | 13-Jun-26 |
| | EA1805 | active | 02-Feb-18 |
| Belarus | EA15145 | active | 13-Jan-24 |
| | EA17764 | active | 13-Jun-26 |
| | EA1805 | active | 02-Feb-18 |
| Botswana | AP200503348 | active | 13-Jan-24 |
| | AP2089 | active | 13-Jan-24 |
| Brazil | BR1100250 | active | 09-Apr-17 |
| | BR199811045 | active | 23-Jul-18 |
| | BR200406760 | active | 13-Jan-24 |
| | BRPI0611634 | active | 13-Jun-26 |
| Bulgaria | BG62612 | active | 06-Aug-18 |
| | BG99383 | active | 30-Jan-15 |
| | EP1243590 | active | 23-Jul-18 |
| | EP1243593 | active | 23-Jul-18 |
| | EP1583542 | active | 13-Jan-24 |
| | EP1890681 | active | 13-Jun-26 |
| | EP915894 | active | 25-Jul-17 |
| | EP975609 | active | 02-Feb-18 |
| | EP998480 | active | 23-Jul-18 |
| | EP513200 | active | 31-Jan-16 |
| China | CN100383148 | active | 23-Jul-18 |
| | CN100384859 | active | 25-Jul-17 |
| | CN100396785 | active | 30-Sep-22 |
| | CN100420443 | active | 23-Jul-18 |
| | CN101181277 | active | 23-Jul-18 |
| | CN101181277 | active | 23-Jul-18 |
| | CN101222914 | active | 13-Jun-26 |
| | CN101239989 | active | 25-Jul-17 |
| | CN101239989 | active | 25-Jul-17 |
| | CN101252920 | active | 13-Jun-26 |
| | CN101252920 | active | 13-Jun-26 |
| | CN102670629 | active | 13-Jan-24 |
| | CN1073991 | active | 02-Feb-18 |
| | CN1084745 | active | 15-May-18 |
| | CN1107505 | active | 10-Oct-18 |
| | CN1109108 | active | 18-Aug-15 |
| | CN1191242 | active | 02-Feb-18 |
| CN1244200 | active | 25-Jul-17 | |
| CN1246113 | active | 02-Feb-18 | |
| CN1251679 | active | 23-Jul-18 | |
| CN1264387 | active | 23-Jul-18 | |
| CN1385425 | active | 02-Feb-18 | |
| CN1554350 | active | 23-Jul-18 | |
| CN1738628 | active | 13-Jan-24 | |
| CN1745755 | active | 23-Jul-18 | |
| Gambia | AP200503348 | active | 13-Jan-24 |
| | AP2089 | active | 13-Jan-24 |

**EFAVIRENZ + EMTRICITABINE + TENOFOVIR
(GILEAD)* - Continued**

| Country | Publication # | Status | Expiration |
|---|----------------|-----------|------------|
| Ghana | AP200503348 | active | 13-Jan-24 |
| | AP2089 | active | 13-Jan-24 |
| Hungary | HU200001313 | active | 02-Feb-18 |
| | HU200001313 | active | 02-Feb-18 |
| | HU211300 | active | 31-Jan-16 |
| | HU229087 | active | 02-Feb-18 |
| | EP1243590 | active | 23-Jul-18 |
| | EP1243593 | active | 23-Jul-18 |
| | EP1583542 | active | 13-Jan-24 |
| | EP1890681 | active | 13-Jun-26 |
| | EP915894 | active | 25-Jul-17 |
| | EP975609 | active | 02-Feb-18 |
| | EP998480 | active | 23-Jul-18 |
| | EP513200 | active | 31-Jan-16 |
| | India | IN190780 | active |
| IN2002008961I | | active | 04-Sep-22 |
| IN2002009631I | | active | 24-Sep-22 |
| IN200503383P1 | | active | 29-Jul-25 |
| IN2007006021I | | active | 20-Mar-27 |
| IN2007011351I | | active | 29-May-27 |
| IN2007021001I | | active | 08-Oct-27 |
| IN200709661P1 | | active | 13-Dec-27 |
| IN200806665P1 | | active | 31-Jul-28 |
| IN2009022561I | active | 03-Nov-29 | |
| Indonesia | ID24701 | active | 23-Jul-18 |
| Kazakhstan | EA15145 | active | 13-Jan-24 |
| | EA17764 | active | 13-Jun-26 |
| | EA1805 | active | 02-Feb-18 |
| Kenya | AP200503348 | active | 13-Jan-24 |
| | AP2089 | active | 13-Jan-24 |
| Kyrgyzstan | EA15145 | active | 13-Jan-24 |
| | EA17764 | active | 13-Jun-26 |
| | EA1805 | active | 02-Feb-18 |
| Lesotho | AP200503348 | active | 13-Jan-24 |
| | AP2089 | active | 13-Jan-24 |
| Liberia | AP200503348 | active | 13-Jan-24 |
| | AP2089 | active | 13-Jan-24 |
| Macedonia, the former Yugoslav Republic of | EP1243590 | active | 23-Jul-18 |
| | EP1243593 | active | 23-Jul-18 |
| | EP1583542 | active | 13-Jan-24 |
| | EP1890681 | active | 13-Jun-26 |
| | EP915894 | active | 25-Jul-17 |
| | EP975609 | active | 02-Feb-18 |
| | EP998480 | active | 23-Jul-18 |
| | EP513200 | active | 31-Jan-16 |
| Malawi | AP200503348 | active | 13-Jan-24 |
| | AP2089 | active | 13-Jan-24 |
| Mexico | MX199907215 | active | 04-Aug-19 |
| | MX2000000808 | active | 24-Jan-20 |
| | MX2005007016 | active | 27-Jun-25 |
| | MX2005PA007016 | active | 27-Jun-25 |
| | MX2007015763 | active | 11-Dec-27 |
| | MX2007015764 | active | 11-Dec-27 |
| | MX217642 | active | 04-Aug-19 |
| | MX233118B | active | 23-Jul-18 |
| | MX245487 | active | 04-Aug-19 |
| MX262650 | active | 13-Jan-24 | |
| MX299353 | active | 13-Jun-26 | |
| Moldova, Republic of | EA15145 | active | 13-Jan-24 |
| | EA17764 | active | 13-Jun-26 |
| | EA1805 | active | 02-Feb-18 |
| Mozambique | AP200503348 | active | 13-Jan-24 |
| | AP2089 | active | 13-Jan-24 |

**EFAVIRENZ + EMTRICITABINE + TENOFOVIR
(GILEAD)* - Continued**

| Country | Publication # | Status | Expiration |
|-----------------------|---------------|--------|------------|
| Namibia | AP200503348 | active | 13-Jan-24 |
| | AP2089 | active | 13-Jan-24 |
| Philippines | PH1199655191 | active | 27-Dec-16 |
| | PH1199655192 | active | 27-Dec-16 |
| | PH1199655193 | active | 27-Dec-16 |
| | PH1199655194 | active | 27-Dec-16 |
| Romania | RO113641 | active | 06-Aug-18 |
| | EP1243590 | active | 23-Jul-18 |
| | EP1243593 | active | 23-Jul-18 |
| | EP1583542 | active | 13-Jan-24 |
| | EP1890681 | active | 13-Jun-26 |
| | EP915894 | active | 25-Jul-17 |
| | EP975609 | active | 02-Feb-18 |
| | EP998480 | active | 23-Jul-18 |
| | EP513200 | active | 31-Jan-16 |
| Russian Federation | EA15145 | active | 13-Jan-24 |
| | EA17764 | active | 13-Jun-26 |
| | EA1805 | active | 02-Feb-18 |
| Rwanda | AP200503348 | active | 13-Jan-24 |
| | AP2089 | active | 13-Jan-24 |
| Sao Tome and Principe | AP200503348 | active | 13-Jan-24 |
| | AP2089 | active | 13-Jan-24 |
| Serbia | RS50812 | active | 13-Jun-26 |
| | EP1243590 | active | 23-Jul-18 |
| | EP1243593 | active | 23-Jul-18 |
| | EP1583542 | active | 13-Jan-24 |
| | EP1890681 | active | 13-Jun-26 |
| | EP915894 | active | 25-Jul-17 |
| | EP975609 | active | 02-Feb-18 |
| | EP998480 | active | 23-Jul-18 |
| | EP513200 | active | 31-Jan-16 |
| Sierra Leone | AP200503348 | active | 13-Jan-24 |
| | AP2089 | active | 13-Jan-24 |
| Somalia | AP200503348 | active | 13-Jan-24 |
| | AP2089 | active | 13-Jan-24 |
| South Africa | ZA200505852 | active | 20-Jul-25 |
| | ZA200800297 | active | 09-Jan-28 |
| Sudan | AP200503348 | active | 13-Jan-24 |
| | AP2089 | active | 13-Jan-24 |
| Swaziland | AP200503348 | active | 13-Jan-24 |
| | AP2089 | active | 13-Jan-24 |
| Tajikistan | EA15145 | active | 13-Jan-24 |
| | EA17764 | active | 13-Jun-26 |
| | EA1805 | active | 02-Feb-18 |
| Tanzania | AP200503348 | active | 13-Jan-24 |
| | AP2089 | active | 13-Jan-24 |
| | EP1243590 | active | 23-Jul-18 |
| Turkey | EP1243593 | active | 23-Jul-18 |
| | EP1583542 | active | 13-Jan-24 |
| | EP1890681 | active | 13-Jun-26 |
| | EP915894 | active | 25-Jul-17 |
| | EP975609 | active | 02-Feb-18 |
| | EP998480 | active | 23-Jul-18 |
| | EP513200 | active | 31-Jan-16 |
| Turkmenistan | EA15145 | active | 13-Jan-24 |
| | EA17764 | active | 13-Jun-26 |
| | EA1805 | active | 02-Feb-18 |
| Uganda | AP200503348 | active | 13-Jan-24 |
| | AP2089 | active | 13-Jan-24 |
| Ukraine | UA81797 | active | 13-Jan-24 |
| Vietnam | VN10008241 | active | 13-Jan-24 |
| Zambia | AP200503348 | active | 13-Jan-24 |
| | AP2089 | active | 13-Jan-24 |
| Zimbabwe | AP200503348 | active | 13-Jan-24 |

EFAVIRENZ + EMTRICITABINE + TENOFOVIR (GILEAD)* - Continued

| Country | Publication # | Status | Expiration |
|----------|---------------|--------|------------|
| Zimbabwe | AP2089 | active | 13-Jan-24 |
| ARIPO | AP200503348 | active | 13-Jan-24 |
| | AP2089 | active | 13-Jan-24 |
| EAPC | EA15145 | active | 13-Jan-24 |
| | EA17764 | active | 13-Jun-26 |
| | EA1805 | active | 02-Feb-18 |
| EPO | EP1243590 | active | 23-Jul-18 |
| | EP1243593 | active | 23-Jul-18 |
| | EP1583542 | active | 13-Jan-24 |
| | EP1890681 | active | 13-Jun-26 |
| | EP915894 | active | 25-Jul-17 |
| | EP975609 | active | 02-Feb-18 |
| | EP998480 | active | 23-Jul-18 |
| | EP513200 | active | 31-Jan-16 |

* A status of "active" means that the company is maintaining the patent filing, and that it is either in the application stage or that a patent has been granted. More specifics were not provided by the time of publishing the report.

EMTRICITABINE (GILEAD)*

| Country | Publication # | Status | Expiration |
|--|---------------|--------|------------|
| Albania | EP513200 | active | 31-Jan-16 |
| Bosnia and Herzegovina | BA1996097 | active | |
| | 17-Apr-16 | | |
| Bulgaria | BG61693 | active | 24-Jul-17 |
| | BG62236 | active | 31-Jan-16 |
| | EP513200 | active | 31-Jan-16 |
| China | CN100396785 | active | 30-Sep-22 |
| | CN1074924 | active | 3-Nov-15 |
| | CN1084745 | active | 15-May-18 |
| | CN1109108 | active | 18-Aug-15 |
| | CN1302612 | active | 26-May-20 |
| Honduras | HN1999000161 | active | 20-Sep-19 |
| Hungary | HU211300 | active | 31-Jan-16 |
| | EP513200 | active | 31-Jan-16 |
| Macedonia, the former Yugoslav Republic of | EP513200 | active | 31-Jan-16 |
| Mexico | MX273446 | active | 12-Jun-18 |
| Philippines | PH1199655191 | active | 27-Dec-16 |
| | PH1199655192 | active | 27-Dec-16 |
| | PH1199655193 | active | 27-Dec-16 |
| | PH1199655194 | active | 27-Dec-16 |
| | PH1199901060 | active | 7-May-19 |
| Romania | EP513200 | active | 31-Jan-16 |
| Serbia | EP513200 | active | 31-Jan-16 |
| Turkey | EP513200 | active | 31-Jan-16 |
| EPO | EP513200 | active | 31-Jan-16 |

* A status of "active" means that the company is maintaining the patent filing, and that it is either in the application stage or that a patent has been granted. More specifics were not provided by the time of publishing the report. Further, emtricitabine was removed from the MLEM with the publication of the 2015 edition.

EMTRICITABINE + TENOFOVIR (GILEAD)*

| Country | Publication # | Status | Expiration |
|--|----------------|--------|------------|
| Albania | EP1243590 | active | 23-Jul-18 |
| | EP1243593 | active | 23-Jul-18 |
| | EP1583542 | active | 13-Jan-24 |
| | EP915894 | active | 25-Jul-17 |
| | EP998480 | active | 23-Jul-18 |
| Argentina | AR40805 | active | 14-Jan-24 |
| | AR43332 | active | 14-Jan-24 |
| Armenia | EA15145 | active | 31-Jan-24 |
| Azerbaijan | EA15145 | active | 31-Jan-24 |
| Belarus | EA15145 | active | 31-Jan-24 |
| Botswana | AP200503348 | active | 13-Jan-24 |
| | AP2089 | active | 13-Jan-24 |
| Brazil | BR199811045 | active | 23-Jul-18 |
| | BR200406760 | active | 13-Jan-24 |
| Bulgaria | EP1243590 | active | 23-Jul-18 |
| | EP1243593 | active | 23-Jul-18 |
| | EP1583542 | active | 13-Jan-24 |
| | EP915894 | active | 25-Jul-17 |
| | EP998480 | active | 23-Jul-18 |
| China | CN100383148 | active | 23-Jul-18 |
| | CN100384859 | active | 25-Jul-17 |
| | CN100420443 | active | 23-Jul-18 |
| | CN101181277 | active | 23-Jul-18 |
| Gambia | AP200503348 | active | 13-Jan-24 |
| | AP2089 | active | 13-Jan-24 |
| Ghana | AP200503348 | active | 13-Jan-24 |
| | AP2089 | active | 13-Jan-24 |
| Hungary | EP1243590 | active | 23-Jul-18 |
| | EP1243593 | active | 23-Jul-18 |
| | EP1583542 | active | 13-Jan-24 |
| | EP915894 | active | 25-Jul-17 |
| | EP998480 | active | 23-Jul-18 |
| India | IN190780 | active | 24-Jul-18 |
| | IN20020089611 | active | 4-Sep-22 |
| | IN20020096311 | active | 24-Sep-22 |
| | IN200503383P1 | active | 29-Jul-25 |
| Indonesia | ID24701 | active | 23-Jul-18 |
| Kazakhstan | EA15145 | active | 31-Jan-24 |
| Kenya | AP200503348 | active | 13-Jan-24 |
| | AP2089 | active | 13-Jan-24 |
| Kyrgyzstan | EA15145 | active | 31-Jan-24 |
| Lesotho | AP200503348 | active | 13-Jan-24 |
| | AP2089 | active | 13-Jan-24 |
| Liberia | AP200503348 | active | 13-Jan-24 |
| | AP2089 | active | 13-Jan-24 |
| Macedonia, the former Yugoslav Republic of | EP1243590 | active | 23-Jul-18 |
| | EP1243593 | active | 23-Jul-18 |
| | EP1583542 | active | 13-Jan-24 |
| | EP915894 | active | 25-Jul-17 |
| | EP998480 | active | 23-Jul-18 |
| Malawi | AP200503348 | active | 13-Jan-24 |
| | AP2089 | active | 13-Jan-24 |
| Mexico | MX2000000808 | active | 24-Jan-20 |
| | MX2005007016 | active | 27-Jun-25 |
| | MX2005PA007016 | active | 27-Jun-25 |
| | MX233118 | active | 23-Jul-18 |
| | MX262650 | active | 13-Jan-24 |
| Moldova, Republic of | EA15145 | active | 31-Jan-24 |
| Mozambique | AP200503348 | active | 13-Jan-24 |
| | AP2089 | active | 13-Jan-24 |
| Namibia | AP200503348 | active | 13-Jan-24 |
| | AP2089 | active | 13-Jan-24 |
| Romania | EP1243590 | active | 23-Jul-18 |

**EMTRICITABINE + TENOFOVIR
(GILEAD)* - Continued**

| Country | Publication # | Status | Expiration |
|-----------------------|---------------|--------|------------|
| Romania | EP1243593 | active | 23-Jul-18 |
| | EP1583542 | active | 13-Jan-24 |
| | EP915894 | active | 25-Jul-17 |
| | EP998480 | active | 23-Jul-18 |
| Russian Federation | EA15145 | active | 31-Jan-24 |
| Rwanda | AP200503348 | active | 13-Jan-24 |
| | AP2089 | active | 13-Jan-24 |
| Sao Tome and Principe | AP200503348 | active | 13-Jan-24 |
| | AP2089 | active | 13-Jan-24 |
| Serbia | EP1243590 | active | 23-Jul-18 |
| | EP1243593 | active | 23-Jul-18 |
| | EP1583542 | active | 13-Jan-24 |
| | EP915894 | active | 25-Jul-17 |
| | EP998480 | active | 23-Jul-18 |
| Sierra Leone | AP200503348 | active | 13-Jan-24 |
| | AP2089 | active | 13-Jan-24 |
| Somalia | AP200503348 | active | 13-Jan-24 |
| | AP2089 | active | 13-Jan-24 |
| South Africa | ZA200505852 | active | 20-Jul-25 |
| Sudan | AP200503348 | active | 13-Jan-24 |
| | AP2089 | active | 13-Jan-24 |
| Swaziland | AP200503348 | active | 13-Jan-24 |
| | AP2089 | active | 13-Jan-24 |
| Tajikistan | EA15145 | active | 31-Jan-24 |
| Tanzania | AP200503348 | active | 13-Jan-24 |
| | AP2089 | active | 13-Jan-24 |
| Turkey | EP1243590 | active | 23-Jul-18 |
| | EP1243593 | active | 23-Jul-18 |
| | EP1583542 | active | 13-Jan-24 |
| | EP915894 | active | 25-Jul-17 |
| | EP998480 | active | 23-Jul-18 |
| Turkmenistan | EA15145 | active | 31-Jan-24 |
| Uganda | AP200503348 | active | 13-Jan-24 |
| | AP2089 | active | 13-Jan-24 |
| Ukraine | UA81797 | active | 13-Jan-24 |
| Vietnam | VN10008241 | active | 13-Jan-24 |
| Zambia | AP200503348 | active | 13-Jan-24 |
| | AP2089 | active | 13-Jan-24 |
| Zimbabwe | AP200503348 | active | 13-Jan-24 |
| | AP2089 | active | 13-Jan-24 |
| ARIPO | AP200503348 | active | 13-Jan-24 |
| | AP2089 | active | 13-Jan-24 |
| EAPC | EA15145 | active | 31-Jan-24 |
| EPO | EP1243590 | active | 23-Jul-18 |
| | EP1243593 | active | 23-Jul-18 |
| | EP1583542 | active | 13-Jan-24 |
| | EP915894 | active | 25-Jul-17 |
| | EP998480 | active | 23-Jul-18 |

* A status of "active" means that the company is maintaining the patent filing, and that it is either in the application stage or that a patent has been granted. More specifics were not provided by the time of publishing the report.

**LAMIVUDINE + NEVIRAPINE + STAVUDINE
(CIPLA)***

| Country | Publication # | Status | Expiration |
|-----------------------|---------------|---------|------------|
| Botswana | AP200804389 | unknown | 31-Aug-26 |
| | AP2220 | unknown | 10-May-22 |
| | AP200202507D0 | unknown | 10-May-22 |
| Gambia | AP200804389 | unknown | 31-Aug-26 |
| | AP2220 | unknown | 10-May-22 |
| | AP200202507D0 | unknown | 10-May-22 |
| Ghana | AP200804389 | unknown | 31-Aug-26 |
| | AP2220 | unknown | 10-May-22 |
| | AP200202507D0 | unknown | 10-May-22 |
| India | IN20050105713 | unknown | 31-Aug-25 |
| | IN200800536P3 | unknown | 24-Mar-28 |
| Kenya | AP200804389 | unknown | 31-Aug-26 |
| | AP2220 | unknown | 10-May-22 |
| | AP200202507D0 | unknown | 10-May-22 |
| Lesotho | AP200804389 | unknown | 31-Aug-26 |
| | AP2220 | unknown | 10-May-22 |
| | AP200202507D0 | unknown | 10-May-22 |
| Liberia | AP200804389 | unknown | 31-Aug-26 |
| | AP2220 | unknown | 10-May-22 |
| | AP200202507D0 | unknown | 10-May-22 |
| Malawi | AP200804389 | unknown | 31-Aug-26 |
| | AP2220 | unknown | 10-May-22 |
| | AP200202507D0 | unknown | 10-May-22 |
| Morocco | MA29813 | unknown | 31-Mar-28 |
| | AP200804389 | unknown | 31-Aug-26 |
| Mozambique | AP2220 | unknown | 10-May-22 |
| | AP200202507D0 | unknown | 10-May-22 |
| Namibia | AP200804389 | unknown | 31-Aug-26 |
| | AP2220 | unknown | 10-May-22 |
| | AP200202507D0 | unknown | 10-May-22 |
| Rwanda | AP200804389 | unknown | 31-Aug-26 |
| | AP2220 | unknown | 10-May-22 |
| | AP200202507D0 | unknown | 10-May-22 |
| Sao Tome and Principe | AP200804389 | unknown | 31-Aug-26 |
| | AP2220 | unknown | 10-May-22 |
| | AP200202507D0 | unknown | 10-May-22 |
| Sierra Leone | AP200804389 | unknown | 31-Aug-26 |
| | AP2220 | unknown | 10-May-22 |
| | AP200202507D0 | unknown | 10-May-22 |
| Somalia | AP200804389 | unknown | 31-Aug-26 |
| | AP2220 | unknown | 10-May-22 |
| | AP200202507D0 | unknown | 10-May-22 |
| South Africa | ZA200802751 | unknown | 31-Aug-26 |
| | ZA200110499 | unknown | 21-Dec-21 |
| | ZA200110500 | unknown | 22-Dec-21 |
| | ZA200110501 | unknown | 23-Dec-21 |
| | ZA200110502 | unknown | 24-Dec-21 |
| Sudan | AP200804389 | unknown | 31-Aug-26 |
| | AP2220 | unknown | 10-May-22 |
| | AP200202507D0 | unknown | 10-May-22 |
| Swaziland | AP200804389 | unknown | 31-Aug-26 |
| | AP2220 | unknown | 10-May-22 |
| | AP200202507D0 | unknown | 10-May-22 |
| Tanzania | AP200804389 | unknown | 31-Aug-26 |
| | AP2220 | unknown | 10-May-22 |
| | AP200202507D0 | unknown | 10-May-22 |
| Uganda | AP200804389 | unknown | 31-Aug-26 |
| | AP2220 | unknown | 10-May-22 |
| | AP200202507D0 | unknown | 10-May-22 |
| Zambia | AP200804389 | unknown | 31-Aug-26 |
| | AP2220 | unknown | 10-May-22 |
| | AP200202507D0 | unknown | 10-May-22 |
| Zimbabwe | AP200804389 | unknown | 31-Aug-26 |
| | AP2220 | unknown | 10-May-22 |

LAMIVUDINE + NEVIRAPINE + STAVUDINE (CIPLA)* - Continued

| Country | Publication # | Status | Expiration |
|----------|---------------|---------|------------|
| Zimbabwe | AP200202507D0 | unknown | 10-May-22 |
| ARIPO | AP200804389 | unknown | 31-Aug-26 |
| | AP2220 | unknown | 10-May-22 |
| | AP200202507D0 | unknown | 10-May-22 |

* These data were not validated by the supplier company.

LAMIVUDINE + NEVIRAPINE + ZIDOVUDINE (AUROBINDO)

| Country | Publication # | Status | Expiration |
|-----------------------------------|---------------|-------------|------------|
| Albania | EP941100 | Grant | 29-Oct-17 |
| Benin | OA11038 | Grant | 29-Oct-17 |
| Bulgaria | BG64541 | Grant | 29-Oct-17 |
| Burkina Faso | OA11038 | Grant | 29-Oct-17 |
| Cameroon | OA11038 | Grant | 29-Oct-17 |
| Central African Republic | OA11038 | Grant | 29-Oct-17 |
| Chad | OA11038 | Grant | 29-Oct-17 |
| Congo, Democratic Republic of the | OA11038 | Grant | 29-Oct-17 |
| Congo | OA11038 | Grant | 29-Oct-17 |
| El Salvador | SV1997000090 | Application | 28-Oct-17 |
| Gabon | OA11038 | Grant | 29-Oct-17 |
| Gambia | AP1067 | Grant | 29-Oct-17 |
| Ghana | AP1067 | Grant | 29-Oct-17 |
| Guinea | OA11038 | Grant | 29-Oct-17 |
| Indonesia | ID13990 | Grant | 30-Oct-17 |
| Kenya | AP1067 | Grant | 29-Oct-17 |
| Lesotho | AP1067 | Grant | 29-Oct-17 |
| Malawi | AP1067 | Grant | 29-Oct-17 |
| Mali | OA11038 | Grant | 29-Oct-17 |
| Mauritania | OA11038 | Grant | 29-Oct-17 |
| Mexico | MX217154 | Grant | 29-Oct-17 |
| Niger | OA11038 | Grant | 29-Oct-17 |
| Philippines | PH1992044356 | Grant | 23-Nov-18 |
| Romania | EP941100 | Grant | 29-Oct-17 |
| Senegal | OA11038 | Grant | 29-Oct-17 |
| Sierra Leone | AP1067 | Grant | 29-Oct-17 |
| South Africa | ZA9709726 | Grant | 28-Oct-17 |
| Sri Lanka | LK11690 | Grant | 29-Oct-17 |
| Sudan | AP1067 | Grant | 29-Oct-17 |
| Swaziland | AP1067 | Grant | 29-Oct-17 |
| Togo | OA11038 | Grant | 29-Oct-17 |
| Uganda | AP1067 | Grant | 29-Oct-17 |
| Vietnam | VN2949 | Grant | 29-Oct-17 |
| Zimbabwe | AP1067 | Grant | 29-Oct-17 |
| ARIPO | AP1067 | Grant | 29-Oct-17 |
| EPO | EP941100 | Grant | 29-Oct-17 |
| OAPI | OA11038 | Grant | 29-Oct-17 |

LAMIVUDINE + RITONAVIR (ABBVIE)*

| Country | Publication # | Status | Expiration |
|--------------------|------------------|-------------|------------|
| Albania | 3769 | Grant | 23-Aug-24 |
| Argentina | AR019431B1 | Grant | 20-Jul-19 |
| | AR005053B1 | Grant | 12-Dec-16 |
| | P040101329 | Application | 2019* |
| | P050102703 | Application | 2019* |
| | P070100929 | Application | 2019* |
| | P20100102529 | Application | 2026* |
| | P060100645 | Application | 2026* |
| Armenia | 14446 | Grant | 21-Feb-26 |
| | 11924 | Grant | 23-Aug-24 |
| Azerbaijan | 14446 | Grant | 21-Feb-26 |
| | 11924 | Grant | 23-Aug-24 |
| Belarus | 14446 | Grant | 21-Feb-26 |
| | 11924 | Grant | 23-Aug-24 |
| Brazil | PP1100661-7 | Grant | 7-May-17 |
| | PI1100397-9 | Grant | 21-Nov-16 |
| | PI9912010-0 | Application | 2019* |
| | PI1101190-4 | Application | TBD |
| | PI1101201-3 | Application | TBD |
| | PP1100663-3 | Application | TBD |
| | BR1220120028649 | Application | TBD |
| | BR1220120028622 | Application | TBD |
| | BR1220120311693 | Application | TBD |
| | PI0413882-1 | Application | TBD |
| | PI06091733 | Application | TBD |
| | PI0108146-2 | Application | TBD |
| Bulgaria | 109682 | Grant | 19-Jul-19 |
| | 66140 | Grant | 19-Jul-19 |
| | 65150 | Grant | 19-Jul-19 |
| | 2258344 | Grant | 23-Aug-24 |
| | 1663183 | Grant | 23-Aug-24 |
| Chile | 2005-0098 | Application | 2019* |
| | 1611-1999 | Application | 2019* |
| | 1844-2009 | Application | 2026* |
| | 2013-03554 | Application | 2026* |
| | 0393-2006 | Application | 2026* |
| China | 2.006800136683 | Grant | 20-Feb-26 |
| | ZL99808927.3 | Grant | 18-Jul-19 |
| | 1814864.6 | Grant | 28-Aug-21 |
| | 2.010102227346 | Grant | 22-Aug-24 |
| | 2.012102597215 | Grant | 22-Aug-24 |
| | ZL200480024748.X | Grant | 22-Aug-24 |
| | 96199904.7 | Grant | 5-Dec-16 |
| | 2.003101181720 | Application | 2019* |
| | 2.010101669679 | Application | 2019* |
| | 2.011100389228 | Application | 2019* |
| | 2.012102597395 | Application | 2024* |
| Colombia | 28.473 | Grant | 12-Dec-16 |
| | 28.401 | Grant | 12-Dec-16 |
| | 06-019.306A | Application | 2024* |
| | 06-019.306 | Application | 2024* |
| | 07-089.792 | Application | 2024* |
| Costa Rica | 2012-0662 | Application | 2024* |
| | 8256 | Application | 2024* |
| Dominican Republic | P2006-0050 | Application | 2026* |
| EAPC | 14446 | Grant | 21-Feb-26 |
| | 20992 | Grant | 23-Aug-24 |
| | 11924 | Grant | 23-Aug-24 |
| | 201301045 | Application | 2024* |
| Ecuador | SP-06-6397 | Application | 2024* |
| El Salvador | 2011003914 | Application | 2026* |
| | 2006002427 | Application | 2026* |
| EPO | 830353 | Grant | 13-May-16 |
| | 1284716 | Grant | 29-May-21 |
| | 1418174 | Grant | 19-Jul-19 |

LAMIVUDINE + RITONAVIR (ABBVIE)*
- Continued

| Country | Publication # | Status | Expiration |
|------------------|----------------|-------------|------------|
| EPO | 2017269 | Grant | 19-Jul-19 |
| | 1097148 | Grant | 19-Jul-19 |
| | 1313712 | Grant | 29-Aug-21 |
| | 2258344 | Grant | 23-Aug-24 |
| | 1663183 | Grant | 23-Aug-24 |
| | 1227797 | Grant | 10-Nov-20 |
| | 1124290.6 | Application | 2016* |
| | 10179472.5 | Application | 2019* |
| | 10181264.2 | Application | 2024* |
| | 10181268.3 | Application | 2024* |
| | 10159672.4 | Application | 2024* |
| 10184860.4 | Application | 2024* | |
| Georgia | P5083 | Grant | 21-Feb-26 |
| Guatemala | 5461 | Grant | 21-Feb-26 |
| | PI-2006-0295-A | Application | 2026* |
| Honduras | 2010-001333 | Application | 2026* |
| | 8070/2006 | Application | 2026* |
| Hungary | 230150 | Grant | 19-Jul-19 |
| | 229999 | Grant | 19-Jul-19 |
| | 227540 | Grant | 19-Jul-19 |
| | 2258344 | Grant | 23-Aug-24 |
| | 1663183 | Grant | 23-Aug-24 |
| | 222731 | Grant | 6-Dec-16 |
| | 223782 | Grant | 6-Dec-16 |
| Indonesia | IDP0030607B | Grant | 19-Jul-19 |
| | IDP0030609B | Grant | 19-Jul-19 |
| | ID0021288 | Grant | 19-Jul-19 |
| | P-ID0023461 | Grant | 23-Aug-24 |
| | W-00200702744 | Application | 2024* |
| Kosovo | 286 | Grant | 23-Aug-24 |
| Kyrgyzstan | 14446 | Grant | 21-Feb-26 |
| | 11924 | Grant | 23-Aug-24 |
| Macedonia | 904013 | Grant | 23-Aug-24 |
| Malaysia | MY-145265-A | Grant | 13-Jan-27 |
| | MY-121765-A | Grant | 28-Feb-21 |
| | MY-146247-A | Grant | 22-Feb-26 |
| Mexico | 246775 | Grant | 13-May-16 |
| | 231406 | Grant | 19-Jul-19 |
| | 246074 | Grant | 29-Aug-21 |
| | 247042 | Grant | 29-Aug-21 |
| | 246075 | Grant | 29-Aug-21 |
| | 283664 | Grant | 23-Aug-24 |
| | 229533 | Grant | 10-Nov-20 |
| | 238296 | Grant | 6-Dec-16 |
| | 259345 | Grant | 6-Dec-16 |
| | 284550 | Grant | 6-Dec-16 |
| | 205936 | Grant | 6-Dec-16 |
| MX/a/2010/013145 | Application | 2024* | |
| MX/a/2007/010275 | Application | 2026* | |
| Moldova | 14446 | Grant | 21-Feb-26 |
| | 11924 | Grant | 23-Aug-24 |
| Nicaragua | 2006-0051-1 | Application | 2024* |
| | 2006-000051 | Application | 2024* |
| | 2007-000219 | Application | 2024* |
| Pakistan | 140849 | Grant | 29-Oct-18 |
| | 1105/98 | Application | TBD |
| Panama | 86648-01 | Grant | 23-Feb-26 |
| Peru | 5450 | Grant | 22-Feb-26 |
| | 1179-2009 | Application | 2026* |
| Philippines | 1-2007-501802 | Grant | 21-Feb-26 |
| | 1-1993-47529 | Grant | 15-Mar-21 |
| | 1-2005-000384 | Grant | 25-Mar-30 |
| | 1-1996-55031 | Grant | 5-May-22 |
| | 1-1996-53535 | Grant | 27-Jun-16 |

LAMIVUDINE + RITONAVIR (ABBVIE)*
- Continued

| Country | Publication # | Status | Expiration |
|--------------|---------------|-------------|------------|
| Philippines | 1-2004-000384 | Grant | 19-Jul-19 |
| | 1-1999-01795 | Grant | 19-Jul-19 |
| | 1-2004-000034 | Grant | 22-Jul-22 |
| | 1-2003-500068 | Grant | 29-Aug-21 |
| | 1-2001-00123 | Grant | 28-Aug-23 |
| | 1-2009-000354 | Grant | 6-Sep-24 |
| | 1-1995-49842 | Grant | 4-Dec-17 |
| | 1-2002-00841 | Grant | 23-Dec-21 |
| | 1-2011-500304 | Application | 2026* |
| | 1-2012-501811 | Application | 2026* |
| | 1-2007-000441 | Application | TBD |
| Romania | 1284716 | Grant | 29-May-21 |
| | 1418174 | Grant | 19-Jul-19 |
| | 2017269 | Grant | 19-Jul-19 |
| | 1097148 | Grant | 19-Jul-19 |
| | 2258344 | Grant | 23-Aug-24 |
| | 1663183 | Grant | 23-Aug-24 |
| | C/083 | Application | 2021* |
| | 14446 | Grant | 21-Feb-26 |
| Russia | 11924 | Grant | 23-Aug-24 |
| | 1663183 | Grant | 23-Aug-24 |
| Serbia | 2007/07022 | Grant | 21-Feb-26 |
| South Africa | 2008/01362 | Grant | 23-Aug-24 |
| | 2009/01361 | Grant | 23-Aug-24 |
| | 2006/01718 | Grant | 23-Aug-24 |
| Sri Lanka | 96/10475 | Grant | 12-Dec-16 |
| | 13996 | Grant | 23-Aug-24 |
| | 14598 | Application | 2024* |
| Tajikistan | 14446 | Grant | 21-Feb-26 |
| | 11924 | Grant | 23-Aug-24 |
| Thailand | 13302 | Grant | 3-Dec-16 |
| | 9901002650 | Application | 2019* |
| | 601000766 | Application | 2026* |
| Turkey | 1284716 | Grant | 29-May-21 |
| | TR200100171B | Grant | 19-Jul-19 |
| | 1313712 | Grant | 29-Aug-21 |
| | 2258344 | Grant | 23-Aug-24 |
| | 1663183 | Grant | 23-Aug-24 |
| Turkmenistan | 1227797 | Grant | 10-Nov-20 |
| | 14446 | Grant | 21-Feb-26 |
| | 11924 | Grant | 23-Aug-24 |
| | 89220 | Grant | 21-Feb-26 |
| Ukraine | 85564 | Grant | 23-Aug-24 |
| | 26.324 | Grant | 31-Aug-20 |
| Uruguay | 32.116 | Application | 2026* |
| | P29.391 | Application | 2026* |
| | 2006-000342 | Application | 2026* |
| Venezuela | 9900 | Grant | 23-Aug-24 |
| Vietnam | 1-2007-01909 | Application | 2024* |

* Where "*" appears, the expiration year is an estimate. Where "TBD" appears, no such expiration estimation was possible.

OMEPRAZOLE (ASTRAZENECA)

| Country | Publication # | Status | Expiration |
|--------------|---------------|--------|------------|
| Argentina | 254737 | Grant | 30-Nov-15 |
| | 255283 | Grant | 01-Oct-16 |
| China | 99812893.7 | Grant | 03-Nov-19 |
| Iran | 30966 | Grant | 04-May-19 |
| Malaysia | MY113274 | Grant | 31-Jan-17 |
| | MY128809 | Grant | 28-Feb-22 |
| Mexico | MX219896 | Grant | 03-Nov-19 |
| Philippines | 1-1994-48501 | Grant | 04-Dec-17 |
| | 1-1994-48500 | Grant | 04-Dec-17 |
| South Africa | 2001/3336 | Grant | 03-Nov-19 |

OSELTAMIVIR (ROCHE)

| Country | Publication # | Status | Expiration |
|--------------------|---------------|----------------------------|------------|
| Brazil | BR199607098 | Grant | 08-Apr-18 |
| China | CN100338031 | Grant | 26-Feb-16 |
| | CN100409844 | Grant | 26-Feb-16 |
| | CN101143859 | Grant | 26-Feb-16 |
| | CN101172957 | Grant | 26-Feb-16 |
| | CN101172957 | Grant | 26-Feb-16 |
| | CN102952033 | Grant | 26-Feb-16 |
| | CN103772231 | Grant | 26-Feb-16 |
| | CN1147813 | Grant | 26-Feb-16 |
| | CN1185223 | Grant | 26-Feb-16 |
| | CN1347693 | Grant | 26-Feb-16 |
| | CN1733707 | Grant | 26-Feb-16 |
| | CN97198043 | Grant | 21-Aug-17 |
| | Georgia | GE20074226 | Grant |
| Hungary | HU228450 | Grant | 26-Feb-16 |
| | HU229200B1 | Grant | 26-Feb-16 |
| India | IN20070054I1 | Rejection appeal pending * | |
| Mexico | MX199706496 | Grant | 26-Feb-16 |
| | MX225182 | Grant | 22-Aug-17 |
| Russian Federation | RU2181357 | Grant | 26-Feb-16 |
| Ukraine | UA56128 | Grant | 26-Feb-16 |
| Vietnam | VN4838 | Grant | 26-Feb-16 |

* The company was still in the process of verifying this data point at the time of publication.

PEGYLATED INTERFERON 2A (ROCHE)

| Country | Publication # | Status | Expiration |
|--------------------------|---------------|--------|------------|
| Argentina | AR8378 | Grant | 29-May-17 |
| Azerbaijan | I20030151 | Grant | 29-Apr-17 |
| Belarus | 6445 | Grant | 16-May-17 |
| Benin | OA10488 | Grant | 30-May-17 |
| Bosnia and Herzegovina | BAP97218 | Grant | 19-May-17 |
| Brazil | PI9703421-5 | Grant | * |
| Bulgaria | 62273 | Grant | 30-May-17 |
| Burkina Faso | OA10488 | Grant | 30-May-17 |
| Cameroon | OA10488 | Grant | 30-May-17 |
| Central African Republic | OA10488 | Grant | 30-May-17 |
| Chad | OA10488 | Grant | 30-May-17 |
| China | ZL97113049.3 | Grant | 28-May-17 |
| Colombia | 27065 | Grant | 29-May-17 |
| Comoros | OA10488 | Grant | 30-May-17 |
| Congo | OA10488 | Grant | 30-May-17 |

**PEGYLATED INTERFERON 2A (ROCHE)
- Continued**

| Country | Publication # | Status | Expiration |
|--|---------------|--------|------------|
| Côte d'Ivoire | OA10488 | Grant | 30-May-17 |
| Dominican Republic | 329 | Grant | 25-Apr-17 |
| Ecuador | PI051824 | Grant | 29-May-17 |
| Egypt | 24292 | Grant | 26-May-17 |
| El Salvador | 46 | Grant | 30-May-17 |
| Equatorial Guinea | OA10488 | Grant | 30-May-17 |
| Gabon | OA10488 | Grant | 30-May-17 |
| Georgia | OA10488 | Grant | 30-May-17 |
| Guatemala | 4856 | Grant | 08-Dec-17 |
| Guinea | OA10488 | Grant | 30-May-17 |
| Guinea-Bissau | OA10488 | Grant | 30-May-17 |
| Hungary | 227992 | Grant | 28-May-17 |
| India | 198952 | Grant | 15-May-17 |
| Indonesia | ID0009840 | Grant | 27-Nov-17 |
| Jamaica | 3482 | Grant | 16-Apr-17 |
| Kazakhstan | 7465 | Grant | 22-May-17 |
| Kosovo | 035/2010 | Grant | 07-May-17 |
| Kyrgyzstan | 338 | Grant | 30-May-17 |
| Lebanon | 5922 | Grant | 03-Dec-17 |
| Macedonia, the former Yugoslav Republic of | 900585 | Grant | 08-Apr-17 |
| Malaysia | MY117909-A | Grant | 30-Aug-19 |
| Mali | OA10488 | Grant | 30-May-17 |
| Mauritania | OA10488 | Grant | 30-May-17 |
| Mexico | 222992 | Grant | 30-May-17 |
| Morocco | 24193 | Grant | 30-May-17 |
| Niger | OA10488 | Grant | 30-May-17 |
| Nigeria | RP12629 | Grant | 10-Apr-17 |
| OAPI | OA10488 | Grant | 30-May-17 |
| Pakistan | 139345 | Grant | 23-Apr-17 |
| Panama | 84310 | Grant | 27-May-17 |
| Paraguay | 4304 | Grant | 08-Aug-17 |
| Peru | * | Grant | 26-May-17 |
| Philippines | 1-1997-56566 | Grant | 08-Jun-23 |
| Romania | 809996 | Grant | 22-May-17 |
| Russian Federation | 2180595 | Grant | 30-May-17 |
| Senegal | OA10488 | Grant | 30-May-17 |
| Serbia | 49533 | Grant | 07-Aug-17 |
| South Africa | 97/4583 | Grant | 26-May-17 |
| Sri Lanka | 11187 | Grant | * |
| Tajikistan | TJ328 | Grant | 30-May-17 |
| Thailand | 34112 | Grant | 21-Apr-17 |
| Togo | OA10488 | Grant | 30-May-17 |
| Tunisia | 18039 | Grant | 27-May-17 |
| Turkey | TR199700358B | Grant | 09-May-17 |
| Turkmenistan | 527 | Grant | 30-May-17 |
| Ukraine | * | Grant | * |
| Uruguay | 14160 | Grant | 30-May-17 |
| Uzbekistan | IAP01951 | Grant | 29-May-17 |
| Venezuela, Bolivarian Republic of | 787/97 | Grant | 29-Apr-17 |
| Vietnam | 2641 | Grant | 27-May-17 |
| Zimbabwe | 49/97 | Grant | 29-May-17 |

* The company was still in the process of verifying this data point at the time of publication.

PEGYLATED INTERFERON 2B (MERCK SHARP & DOHME)

| Country | Publication # | Status | Expiration |
|--|---------------|-------------|------------|
| Albania | EP1039922 | Grant | 16-Dec-18 |
| Argentina | AR17435 | Grant | 17-Dec-18 |
| | AR14772 | Grant | 25-Mar-19 |
| China | * | Grant | 12-May-19 |
| | CN1191863 | Grant | 24-Mar-19 |
| Colombia | 27960 | Grant | 17-Dec-18 |
| EPO | EP956861 | Grant | 13-May-19 |
| | EP1039922 | Grant | 16-Dec-18 |
| | EP0975369 | Grant | 28-Apr-18 |
| Hungary | 228877 | Application | 24-Mar-19 |
| | 224696 | Grant | 16-Dec-18 |
| India | IN234103 | Grant | 24-Mar-19 |
| | IN207233 | Grant | 24-Mar-19 |
| Indonesia | * | Grant | 24-Mar-19 |
| Macedonia, the former Yugoslav Republic of | EP1039922 | Grant | 16-Dec-18 |
| Malaysia | MY129244 | Grant | 30-Mar-22 |
| | MY119581 | Grant | 30-Jun-20 |
| | MY119227 | Grant | 30-Apr-20 |
| Mexico | MX239653 | Grant | 16-Dec-18 |
| | MX216380 | Grant | 31-Oct-16 |
| | MX214898 | Grant | 28-Apr-18 |
| | MX213007 | Grant | 24-Mar-19 |
| | 223097 | Grant | 13-May-19 |
| Peru | 3808 | Grant | 25-Mar-19 |
| | 2872 | Grant | 16-Dec-18 |
| Philippines | PH1199900633 | Grant | 24-Mar-19 |
| | PH1199803330 | Grant | 17-Dec-18 |
| | 1-1999-001117 | Grant | 13-May-19 |
| Romania | EP956861 | Grant | 13-May-19 |
| | EP1039922 | Grant | 16-Dec-18 |
| | EP0975369 | Grant | 28-Apr-18 |
| South Africa | 98/11590 | Grant | 17-Dec-18 |
| Thailand | 44260 | Application | 24-Mar-19 |
| | 16149 | Grant | 16-Dec-18 |
| Venezuela, Bolivarian Republic of | 1999-0009547 | Application | 24-Mar-19 |
| | 1998-002904 | Application | 17-Dec-18 |

* The company was still in the process of verifying this data point at the time of publication.

RITONAVIR (ABBVIE)*

| Country | Publication # | Status | Expiration |
|------------|-----------------|-------------|------------|
| Albania | 3769 | Grant | 23-Aug-24 |
| Argentina | P20100102529 | Application | 2026* |
| | P060100645 | Application | 2026* |
| | P040101329 | Application | 2019* |
| | P050102703 | Application | 2019* |
| | P070100929 | Application | 2019* |
| | AR019431B1 | Grant | 20-Jul-19 |
| Armenia | AR010634B1 | Grant | 20-Nov-17 |
| | 14446 | Grant | 21-Feb-26 |
| Azerbaijan | 11924 | Grant | 23-Aug-24 |
| | 14446 | Grant | 21-Feb-26 |
| Belarus | 11924 | Grant | 23-Aug-24 |
| | 14446 | Grant | 21-Feb-26 |
| Brazil | 11924 | Grant | 23-Aug-24 |
| | PP1100663-3 | Application | TBD |
| | BR1220120028649 | Application | TBD |
| | BR1220120028622 | Application | TBD |
| | BR1220120311693 | Application | TBD |

RITONAVIR (ABBVIE)* - Continued

| Country | Publication # | Status | Expiration |
|--------------------|------------------|-------------|------------|
| Brazil | PI0413882-1 | Application | TBD |
| | PI06091733 | Application | TBD |
| | PI0108146-2 | Application | TBD |
| | PI0007294-0 | Application | 2020* |
| | PI0011864-8 | Application | 2020* |
| | PI9912010-0 | Application | 2019* |
| | PI9715203-0 | Grant | 12-Nov-17 |
| Bulgaria | PI9714310-3 | Grant | 12-Nov-17 |
| | PP1100661-7 | Grant | 7-May-17 |
| | 2258344 | Grant | 23-Aug-24 |
| | 1663183 | Grant | 23-Aug-24 |
| | 66112 | Grant | 1-Dec-20 |
| | 65445 | Grant | 25-May-20 |
| | 109682 | Grant | 19-Jul-19 |
| Chile | 66140 | Grant | 19-Jul-19 |
| | 65150 | Grant | 19-Jul-19 |
| | 1844-2009 | Application | 2026* |
| | 2013-03554 | Application | 2026* |
| | 0393-2006 | Application | 2026* |
| | 3491-2008 | Application | 2020* |
| | 2005-0098 | Application | 2019* |
| China | 1611-1999 | Application | 2019* |
| | 44572 | Grant | 10-Feb-24 |
| | 2.012102597395 | Application | 2024* |
| | 2.003101181720 | Application | 2019* |
| | 2.010101669679 | Application | 2019* |
| | 2.011100389228 | Application | 2019* |
| | 2.006800136683 | Grant | 20-Feb-26 |
| Colombia | 2.010102227346 | Grant | 22-Aug-24 |
| | 2.012102597215 | Grant | 22-Aug-24 |
| | ZL200480024748.X | Grant | 22-Aug-24 |
| | 1814864.6 | Grant | 28-Aug-21 |
| | ZL00818479.8 | Grant | 30-Nov-20 |
| | ZL200810130174.4 | Grant | 24-May-20 |
| | ZL00808320.7 | Grant | 24-May-20 |
| Costa Rica | ZL99808927.3 | Grant | 18-Jul-19 |
| | 200510128757.X | Grant | 11-Nov-17 |
| | ZL97199780.2 | Grant | 11-Nov-17 |
| | 06-019.306A | Application | 2024* |
| | 06-019.306 | Application | 2024* |
| | 07-089.792 | Application | 2024* |
| | 00-040.645 | Application | 2020* |
| Dominican Republic | 2012-0662 | Application | 2024* |
| | 8256 | Application | 2024* |
| EAPC | P2006-0050 | Application | 2026* |
| | 201301045 | Application | 2024* |
| Ecuador | 14446 | Grant | 21-Feb-26 |
| | 20992 | Grant | 23-Aug-24 |
| | 11924 | Grant | 23-Aug-24 |
| El Salvador | SP-06-6397 | Application | 2024* |
| | 2011003914 | Application | 2026* |
| EPO | 2006002427 | Application | 2026* |
| | 10181264.2 | Application | 2024* |
| | 10181268.3 | Application | 2024* |
| | 10159672.4 | Application | 2024* |
| | 10184860.4 | Application | 2024* |
| | 10177365.3 | Application | 2020* |
| | 10179472.5 | Application | 2019* |
| | 2258344 | Grant | 23-Aug-24 |
| | 1663183 | Grant | 23-Aug-24 |
| | 1313712 | Grant | 29-Aug-21 |
| 1284716 | Grant | 29-May-21 | |
| Brazil | 1917958 | Grant | 1-Dec-20 |
| | 1248600 | Grant | 1-Dec-20 |

RITONAVIR (ABBVIE)* - Continued

| Country | Publication # | Status | Expiration |
|-------------|------------------|-------------|------------|
| EPO | 1227797 | Grant | 10-Nov-20 |
| | 1733725 | Grant | 25-May-20 |
| | 1183026 | Grant | 25-May-20 |
| | 1418174 | Grant | 19-Jul-19 |
| | 2017269 | Grant | 19-Jul-19 |
| | 1097148 | Grant | 19-Jul-19 |
| | 942721 | Grant | 12-Nov-17 |
| | 830353 | Grant | 13-May-16 |
| Georgia | P5083 | Grant | 21-Feb-26 |
| Guatemala | PI-2006-0295-A | Application | 2026* |
| | 5461 | Grant | 21-Feb-26 |
| Honduras | 2010-001333 | Application | 2026* |
| | 8070/2006 | Application | 2026* |
| Hungary | PI200413 | Application | 2020* |
| | 2258344 | Grant | 23-Aug-24 |
| | 1663183 | Grant | 23-Aug-24 |
| | 229778 | Grant | 1-Dec-20 |
| | 229501 | Grant | 25-May-20 |
| | 230150 | Grant | 19-Jul-19 |
| | 229999 | Grant | 19-Jul-19 |
| | 227540 | Grant | 19-Jul-19 |
| | 224319 | Grant | 12-Nov-17 |
| Indonesia | W-00200702744 | Application | 2024* |
| | P-ID0023461 | Grant | 23-Aug-24 |
| | IDP002525796 | Grant | 1-Dec-20 |
| | ID0021296 | Grant | 25-May-20 |
| | IDP0030607B | Grant | 19-Jul-19 |
| | IDP0030609B | Grant | 19-Jul-19 |
| | ID0021288 | Grant | 19-Jul-19 |
| Kosovo | 286 | Grant | 23-Aug-24 |
| Kyrgyzstan | 14446 | Grant | 21-Feb-26 |
| | 11924 | Grant | 23-Aug-24 |
| Macedonia | 904013 | Grant | 23-Aug-24 |
| Malaysia | MY-145265-A | Grant | 13-Jan-27 |
| | MY-146247-A | Grant | 22-Feb-26 |
| | MY-127908-A | Grant | 29-Dec-21 |
| | MY-121765-A | Grant | 28-Feb-21 |
| | MY-116032-A | Grant | 27-May-19 |
| Mexico | MX/a/2007/010275 | Application | 2026* |
| | MX/a/2010/013145 | Application | 2024* |
| | 283664 | Grant | 23-Aug-24 |
| | 246074 | Grant | 29-Aug-21 |
| | 247042 | Grant | 29-Aug-21 |
| | 246075 | Grant | 29-Aug-21 |
| | 236722 | Grant | 1-Dec-20 |
| | 229533 | Grant | 10-Nov-20 |
| | 273926 | Grant | 25-May-20 |
| | 250594 | Grant | 25-May-20 |
| | 231406 | Grant | 19-Jul-19 |
| | 217158 | Grant | 12-Nov-17 |
| | 246775 | Grant | 13-May-16 |
| Moldova | 14446 | Grant | 21-Feb-26 |
| | 11924 | Grant | 23-Aug-24 |
| Nicaragua | 2006-0051-1 | Application | 2024* |
| | 2006-000051 | Application | 2024* |
| | 2007-000219 | Application | 2024* |
| Pakistan | 1105/98 | Application | TBD |
| Panama | 86648-01 | Grant | 23-Feb-26 |
| Peru | 1179-2009 | Application | 2026* |
| | 5450 | Grant | 22-Feb-26 |
| Philippines | 1-2011-500304 | Application | 2026* |
| | 1-2012-501811 | Application | 2026* |
| | 1-2007-501802 | Grant | 21-Feb-26 |
| | 1-2009-000354 | Grant | 6-Sep-24 |

RITONAVIR (ABBVIE)* - Continued

| Country | Publication # | Status | Expiration |
|--------------|---------------|-------------|------------|
| Philippines | 1-2004-000034 | Grant | 22-Jul-22 |
| | 1-2003-00471 | Grant | 22-Jul-22 |
| | 1-2002-00841 | Grant | 23-Dec-21 |
| | 1-2002-000414 | Grant | 23-Dec-21 |
| | 1-2003-500068 | Grant | 29-Aug-21 |
| | 1-1993-47529 | Grant | 15-Mar-21 |
| | 1-1997-58579 | Grant | 15-Mar-21 |
| | 1-2007-000165 | Grant | 2-Jun-20 |
| | 1-2000-001457 | Grant | 2-Jun-20 |
| | 1-2004-000384 | Grant | 19-Jul-19 |
| | 1-1999-01795 | Grant | 19-Jul-19 |
| | 1-1995-49842 | Grant | 4-Dec-17 |
| | 1-1996-53535 | Grant | 27-Jun-16 |
| Romania | C/083 | Application | 2021* |
| | 2258344 | Grant | 23-Aug-24 |
| | 1663183 | Grant | 23-Aug-24 |
| | 1284716 | Grant | 29-May-21 |
| | 1917958 | Grant | 1-Dec-20 |
| | 1248600 | Grant | 1-Dec-20 |
| | 1733725 | Grant | 25-May-20 |
| | 1183026 | Grant | 25-May-20 |
| | 1418174 | Grant | 19-Jul-19 |
| | 2017269 | Grant | 19-Jul-19 |
| | 1097148 | Grant | 19-Jul-19 |
| Russia | 14446 | Grant | 21-Feb-26 |
| | 11924 | Grant | 23-Aug-24 |
| Serbia | 1663183 | Grant | 23-Aug-24 |
| South Africa | 2007/07022 | Grant | 21-Feb-26 |
| | 2008/01362 | Grant | 23-Aug-24 |
| | 2009/01361 | Grant | 23-Aug-24 |
| | 2006/01718 | Grant | 23-Aug-24 |
| | 97/10071 | Grant | 7-Nov-17 |
| Sri Lanka | 14598 | Application | 2024* |
| | 13996 | Grant | 23-Aug-24 |
| Tajikistan | 14446 | Grant | 21-Feb-26 |
| | 11924 | Grant | 23-Aug-24 |
| Thailand | 601000766 | Application | 2026* |
| | 1001931 | Application | 2020* |
| | 9901002650 | Application | 2019* |
| Turkey | 2258344 | Grant | 23-Aug-24 |
| | 1663183 | Grant | 23-Aug-24 |
| | 1313712 | Grant | 29-Aug-21 |
| | 1284716 | Grant | 29-May-21 |
| | 1917958 | Grant | 1-Dec-20 |
| | TR200806003T4 | Grant | 1-Dec-20 |
| | 1227797 | Grant | 10-Nov-20 |
| | TR200103488B | Grant | 25-May-20 |
| | TR200100171B | Grant | 19-Jul-19 |
| | TR199901129B | Grant | 12-Nov-17 |
| Turkmenistan | 14446 | Grant | 21-Feb-26 |
| | 11924 | Grant | 23-Aug-24 |
| Ukraine | 89220 | Grant | 21-Feb-26 |
| | 85564 | Grant | 23-Aug-24 |
| Uruguay | 32.116 | Application | 2026* |
| | P29.391 | Application | 2026* |
| Venezuela | 2006-000342 | Application | 2026* |
| Vietnam | 1-2007-01909 | Application | 2024* |
| | 9900 | Grant | 23-Aug-24 |

* Where "*" appears, the expiration year is an estimate. Where "TBD" appears, no such expiration estimation was possible.

SAQUINAVIR (ROCHE)

| Country | Publication # | Status | Expiration |
|-----------------------------------|--------------------------------|-------------|------------|
| Algeria | Grant on WO2005004836 | Grant | 05-Jul-24 |
| Argentina | AR045897 | Grant | 08-Jul-24 |
| Brazil | BRP10412523 | Grant | 05-Jul-24 |
| Bulgaria | EP1646369 | Grant | 05-Jul-24 |
| China | CN1822822 | Grant | 05-Jul-24 |
| Colombia | CO5640069 | Grant | 05-Jul-24 |
| Costa Rica | CR8172 | Application | 05-Jul-24 |
| Dominican Republic | Application on WO2005004836 | Application | 05-Jul-24 |
| Ecuador | ECSP066274 | Application | 05-Jul-24 |
| Egypt | Application on WO2005004836 | Application | 05-Jul-24 |
| El Salvador | Application on WO2005004836 | Application | 05-Jul-24 |
| Guatemala | Grant on WO2005004836 | Grant | 05-Jul-24 |
| India | Application on WO2005004836 | Application | 05-Jul-24 |
| Indonesia | 461033 | Grant | 05-Jul-24 |
| Jordan | Application on WO2005004836 | Application | 05-Jul-24 |
| Lebanon | Application on WO2005004836 | Application | 05-Jul-24 |
| Malaysia | MY140413 | Application | 05-Jul-24 |
| Mexico | MXPA06000363 | Application | 05-Jul-24 |
| Morocco | MA27904 | Application | 05-Jul-24 |
| Oman | Application on WO2005004836 | Application | 05-Jul-24 |
| Panama | PA8606001 | Application | 05-Jul-24 |
| Peru | PE02472005 | Application | 05-Jul-24 |
| Philippines | Grant on WO2005004836 | Grant | 05-Jul-24 |
| Romania | EP1646369 | Grant | 05-Jul-24 |
| Russian Federation | Application on WO2005004836 | Application | 05-Jul-24 |
| Serbia | EP1646369 /RS20060009 | Grant | 05-Jul-24 |
| Thailand | Application on WO2005004836 | Application | 05-Jul-24 |
| Tunisia | Application on WO2005004836 | Application | 05-Jul-24 |
| Turkey | EP1646369 | Grant | 05-Jul-24 |
| Ukraine | UA81335 | Application | 05-Jul-24 |
| Venezuela, Bolivarian Republic of | Application on WO2005004836 | Application | 05-Jul-24 |
| EPO | EP1646369 | Grant | 05-Jul-24 |

TENOFOVIR (GILEAD)*

| Country | Publication # | Status | Expiration |
|----------|---------------|--------|------------|
| Albania | EP1243590 | Grant | 23-Jul-18 |
| | EP1243593 | Grant | 23-Jul-18 |
| | EP998480 | Grant | 23-Jul-18 |
| Brazil | BR199811045 | active | 23-Jul-18 |
| Bulgaria | BG62236 | active | 31-Jan-16 |
| | EP1243590B1 | Grant | 23-Jul-18 |
| | EP1243593B1 | Grant | 23-Jul-18 |
| | EP998480B1 | Grant | 23-Jul-18 |
| | EP0513200 | Grant | 2016 |
| China | CN100383148 | active | 23-Jul-18 |
| China | CN100384859 | active | 25-Jul-17 |

TENOFOVIR (GILEAD)* - Continued

| Country | Publication # | Status | Expiration |
|--|---------------|--------|------------|
| | CN100420443 | active | 23-Jul-18 |
| | CN101181277 | active | 23-Jul-18 |
| | CN101181277 | active | 23-Jul-18 |
| | CN101239989 | active | 25-Jul-17 |
| | CN101239989 | active | 25-Jul-17 |
| | CN1244200 | active | 25-Jul-17 |
| | CN1251679 | active | 23-Jul-18 |
| | CN1264387 | active | 23-Jul-18 |
| | CN1554350 | active | 23-Jul-18 |
| | CN1745755 | active | 23-Jul-18 |
| | CN100396785 | active | 30-Sep-22 |
| | CN1084745 | active | 15-May-18 |
| | CN1109108 | active | 18-Aug-15 |
| Hungary | HU211300 | active | 31-Jan-16 |
| | HU227823 | active | 20-Feb-17 |
| | EP1243590 | Grant | 23-Jul-18 |
| | EP1243593 | Grant | 23-Jul-18 |
| | EP998480 | Grant | 23-Jul-18 |
| | EP0513200 | Grant | 2016 |
| India | IN190780 | active | 24-Jul-18 |
| | IN20020089611 | active | 04-Sep-22 |
| | IN20020096311 | active | 24-Sep-22 |
| | IN20060121814 | active | 12-Jul-26 |
| | IN20060135214 | active | 31-Jul-26 |
| | IN20070048414 | active | 09-Mar-27 |
| | IN20070060211 | active | 20-Mar-27 |
| | IN20070113511 | active | 29-May-27 |
| | IN20070210011 | active | 08-Oct-27 |
| | IN20090225611 | active | 03-Nov-29 |
| Indonesia | ID24701 | active | 23-Jul-18 |
| Macedonia, the former Yugoslav Republic of | EP1243590 | Grant | 23-Jul-18 |
| | EP1243593 | Grant | 23-Jul-18 |
| | EP998480 | Grant | 23-Jul-18 |
| Mexico | MX2000000808 | active | 24-Jan-20 |
| | MX233118 | active | 24-Jan-20 |
| Philippines | PH1199655192 | active | 27-Dec-16 |
| | PH1199655193 | active | 27-Dec-16 |
| | PH1199655194 | active | 27-Dec-16 |
| Romania | EP1243590 | Grant | 23-Jul-18 |
| | EP1243593 | Grant | 23-Jul-18 |
| | EP998480 | Grant | 23-Jul-18 |
| | EP0513200 | Grant | 2016 |
| Serbia | EP1243590 | Grant | 23-Jul-18 |
| | EP1243593 | Grant | 23-Jul-18 |
| | EP915894 | Grant | 25-Jul-17 |
| | EP998480 | Grant | 23-Jul-18 |
| | EP0513200 | Grant | 2016 |
| EPO | EP1243590 | Grant | 23-Jul-18 |
| | EP1243593 | Grant | 23-Jul-18 |
| | EP915894 | Grant | 25-Jul-17 |
| | EP998480 | Grant | 23-Jul-18 |
| | EP0513200 | Grant | 2016 |

* The company confirmed the expiration year of filings related to EP0513200, but did not provide the day and month by the time of publishing. A status of "active" means that the company is maintaining the patent filing and that it is either in the application stage or that a patent has been granted. More specifics were not provided by the time of publishing the report.

Annex 3: Unverified Patent Data Tables for the 2015 MLEM Additions

The results that follow are from a preliminary assessment of the 39 new additions to the 2015 MLEM. Below are tentative results for 15 of 16 medicines that were identified as likely to be under some kind of patent protection in some developing countries by following the methodology outlined in Section 3, but without the verification stage. One of the 16 medicines, filgrastim by Amgen, is not amongst the reports below because we were unable to locate any unexpired patents in a developing country in either INPADOC or Derwent (we only found active patents in some wealthy countries). Follow-up with the supplier company (Amgen) to confirm the absence of unexpired patents in developing countries is still recommended. We excluded capecitabine (by Roche) due to the presence of generic competition in the United States.

None of these reports have been reviewed by the supplier companies. As such, the current legal status of the publications in this Annex is unknown (e.g., application, grant, lapsed, rejected). To reiterate and add to the disclaimer in this study, on no account whatsoever should reliance be placed on these data, as they are extremely preliminary.

With these 16 additions (including filgrastim) and with the removal of didanosine and emtricitabine from the 2015 MLEM, our preliminary assessment of the new MLEM is that no more than 34 of 409 medicines (8 per cent) are likely to be under some kind of patent protection in some developing countries.

ABACAVIR+LAMIVUDINE (VIIV)*

| Country | Application Number | Application Date | Expiration | Publication Number | Publication Date |
|-------------|--------------------|------------------|------------|--------------------|------------------|
| Algeria | DZ1998103A | 1998-05-17 | 2018-05-17 | DZ2493A1 | 2004-06-20 |
| Argentina | ARP19980102250A | 1998-05-14 | 2018-05-14 | AR12702A1 | 2000-11-08 |
| | ARP19980102251A | 1998-05-14 | 2018-05-14 | AR15668A1 | 2001-05-16 |
| | ARP20070100006A | 2007-01-02 | 2027-01-02 | AR59120A2 | 2008-03-12 |
| ARIPO | AP19971089A | 1996-03-28 | 2016-03-28 | AP199701089D0 | 1997-10-31 |
| | AP19991688A | 1998-05-14 | 2018-05-14 | AP199901688D0 | 1999-12-31 |
| | AP19991688A | 1998-05-14 | 2018-05-14 | AP2009A | 2009-06-26 |
| | AP19971089A | 1996-03-28 | 2016-03-28 | AP652A | 1998-06-19 |
| Brazil | BR1100288A | 1997-04-15 | 2017-04-15 | BR1100288A3 | 1997-10-07 |
| | BR19967851A | 1996-03-28 | 2016-03-28 | BR199607851A | 1998-07-21 |
| | BR19989124A | 1998-05-14 | 2018-05-14 | BR199809124A | 2000-08-01 |
| | BR19989126A | 1998-05-14 | 2018-05-14 | BR199809126A | 2000-08-01 |
| | BR19989127A | 1998-05-14 | 2018-05-14 | BR199809127A | 2000-08-01 |
| | BR19967851A | 1996-03-28 | 2016-03-28 | BR9607851B1 | 2009-01-13 |
| | BR19967851A | 1996-03-28 | 2016-03-28 | BRP19607851B1 | 2009-01-13 |
| Bulgaria | BG1999103959A | 1999-12-07 | 2019-12-07 | BG103959A | 2000-12-29 |
| | BG1999103959A | 1999-12-07 | 2019-12-07 | BG64390B1 | 2004-12-30 |
| China | CN2003102921A | 1998-05-14 | 2018-05-14 | CN100408580C | 2008-08-06 |
| | CN1996194050A | 1996-03-28 | 2016-03-28 | CN1103593C | 2003-03-26 |
| | CN1998807073A | 1998-05-14 | 2018-05-14 | CN1150194C | 2004-05-19 |
| | CN1996194050A | 1996-03-28 | 2016-03-28 | CN1185110A | 1998-06-17 |
| | CN1998807073A | 1998-05-14 | 2018-05-14 | CN1263529A | 2000-08-16 |
| | CN2003102921A | 1998-05-14 | 2018-05-14 | CN1515572A | 2004-07-28 |
| Colombia | CO199827044A | 1998-05-14 | 2018-05-14 | CO4940435A1 | 2000-07-24 |
| | CO199827484A | 1998-05-15 | 2018-05-15 | CO4950569A1 | 2000-09-01 |
| EAPC | EA20199900944A | 1998-05-14 | 2018-05-14 | EA1809B1 | 2001-08-27 |
| | EA20199700203A | 1996-03-28 | 2016-03-28 | EA626B1 | 1999-12-29 |
| Egypt | EG1998526A | 1998-05-14 | 2018-05-14 | EG23836A | 2007-10-02 |
| El Salvador | SV199857A | 1998-05-15 | 2018-05-15 | SV1998000057A | 1999-03-02 |
| EPO | EP1998928261A | 1998-05-14 | 2018-05-14 | EP1019056A1 | 2000-07-19 |
| | EP1996911953A | 1996-03-28 | 2016-03-28 | EP817637A1 | 1998-01-14 |
| | EP1996911953A | 1996-03-28 | 2016-03-28 | EP817637B1 | 2002-07-17 |
| | EP1998929309A | 1998-05-14 | 2018-05-14 | EP979082A1 | 2000-02-16 |
| | EP1998925601A | 1998-05-14 | 2018-05-14 | EP983271A1 | 2000-03-08 |
| | EP1998925601A | 1998-05-14 | 2018-05-14 | EP983271B1 | 2004-02-18 |
| Georgia | GE1996AP2816A | 1996-03-28 | 2016-03-28 | GEP20022647B | 2001-12-10 |
| | GE1998AP3738A | 1998-05-14 | 2018-05-14 | GEP20022680B | 2001-11-12 |
| Hungary | HU19981571A | 1996-03-28 | 2016-03-28 | HU199801571A2 | 1999-01-28 |
| | HU19981571A | 1996-03-28 | 2016-03-28 | HU199801571A3 | 2001-04-28 |
| | HU20002754A | 1998-05-14 | 2018-05-14 | HU200002754A2 | 2001-06-28 |
| | HU20002754A | 1998-05-14 | 2018-05-14 | HU200002754A3 | 2003-01-28 |

ABACAVIR+LAMIVUDINE (VIIV)* - Continued

| Country | Application Number | Application Date | Expiration | Publication Number | Publication Date |
|--------------|--------------------|------------------|------------|--------------------|------------------|
| Hungary | HU1995288P | 1995-06-20 | 2015-06-20 | HU211537A9 | 1995-12-28 |
| | HU19981571A | 1996-03-28 | 2016-03-28 | HU224010B1 | 2005-04-28 |
| | HU20002754A | 1998-05-14 | 2018-05-14 | HU226563B1 | 2009-04-28 |
| India | IN1998KO872A | 1997-05-14 | 2017-05-14 | IN199800872I2 | 2005-03-18 |
| Indonesia | ID19991393A | 1998-05-14 | 2018-05-14 | ID24910A | 2000-08-31 |
| Jordan | JO19982032A | 1998-05-16 | 2018-05-16 | JO2032B | 1999-05-15 |
| Malaysia | MY1996PI1152A | 1996-03-27 | 2016-03-27 | MY115461A | 2003-06-30 |
| | MY1998PI2147A | 1998-05-14 | 2018-05-14 | MY120151A | 2005-09-30 |
| Mexico | MX19977316A | 1997-09-25 | 2017-09-25 | MX199707316A | 1997-11-29 |
| | MX199910373A | 1999-11-11 | 2019-11-11 | MX199910373A | 2000-04-01 |
| | MX199910373A | 1999-11-11 | 2019-11-11 | MX219275B | 2004-03-02 |
| Morocco | MA19977316A | 1997-09-25 | 2017-09-25 | MX222042B | 2004-08-09 |
| | MA25076A | 1998-05-15 | 2018-05-15 | MA26496A1 | 2004-12-20 |
| OAPI | MA25078D | 1998-05-15 | 2018-05-15 | MA26498A1 | 2004-12-20 |
| | OA199770075A | 1997-09-17 | 2017-09-17 | OA10616A | 2001-03-15 |
| Panama | OA1999249A | 1999-11-16 | 2019-11-16 | OA11304A | 2003-10-22 |
| | PA200184513A | 1998-05-14 | 2018-05-14 | PA8451301A1 | 2000-05-24 |
| Peru | PE1998375A | 1998-05-14 | 2018-05-14 | PE19990747A1 | 1999-08-13 |
| | PE1998374A | 1998-05-14 | 2018-05-14 | PE19990787A1 | 1999-08-31 |
| Philippines | PH199652732A | 1996-03-28 | 2016-03-28 | PH1199652732B1 | 2004-01-21 |
| Romania | RO19971795A | 1996-03-28 | 2016-03-28 | RO117995B1 | 2002-12-30 |
| Serbia | YU1999595A | 1998-05-14 | 2018-05-14 | RS49655B | 2007-09-21 |
| South Africa | ZA19962477A | 1996-03-28 | 2016-03-28 | ZA199602477A | 1997-10-28 |
| | ZA19984083A | 1998-05-14 | 2018-05-14 | ZA199804083A | 1999-11-15 |
| | ZA19984085A | 1998-05-14 | 2018-05-14 | ZA199804085A | 2000-01-26 |
| Tunisia | TN1998SN98065A | 1998-04-15 | 2018-04-15 | TNSN98065A1 | 2000-06-13 |
| Turkey | TR19971074T | 1996-03-28 | 2016-03-28 | TR199701074T1 | 1998-02-21 |
| | TR19992810T | 1998-05-14 | 2018-05-14 | TR199902810T2 | 2000-02-21 |
| Uruguay | UY199825004A | 1998-05-15 | 2018-05-15 | UY25004A1 | 2000-10-31 |
| WIPO | WO1996EP1352A | 1996-03-28 | 2016-03-28 | WO1996030025A1 | 1996-10-03 |
| | WO1998EP2836A | 1998-05-14 | 2018-05-14 | WO1998052570A1 | 1998-11-26 |
| | WO1998EP2837A | 1998-05-14 | 2018-05-14 | WO1998052571A1 | 1998-11-26 |
| | WO1998EP2835A | 1998-05-14 | 2018-05-14 | WO1998052949A1 | 1998-11-26 |

* This report has not been submitted to the supplier company for review. As such, the current legal status of the publications in this Table is unknown (e.g., application, grant, lapsed, rejected).

BEDAQUILINE (JANSSEN)*

| Country | Application Number | Application Date | Expiration | Publication Number | Publication Date |
|-----------|--------------------|------------------|------------|--------------------|------------------|
| Argentina | AR2003102655A | 2003-07-24 | 2023-07-24 | AR40673A1 | 2005-04-13 |
| | AR2007105442A | 2007-12-05 | 2027-12-05 | AR64149A1 | 2009-03-18 |
| ARIPO | AP20053210A | 2003-07-18 | 2023-07-18 | AP200503210D0 | 2005-03-31 |
| | AP20094870A | 2007-12-03 | 2027-12-03 | AP200904870D0 | 2009-06-30 |
| | AP20053210A | 2003-07-18 | 2023-07-18 | AP2421A | 2012-06-08 |
| | AP20094870A | 2007-12-03 | 2027-12-03 | AP2498A | 2012-10-19 |
| Brazil | BR200312927A | 2003-07-18 | 2023-07-18 | BR200312927A | 2005-07-12 |
| | BR200719693A | 2007-12-03 | 2027-12-03 | BRPI0719693A2 | 2013-12-24 |
| Chile | CL20073472A | 2007-12-03 | 2027-12-03 | CL2007003472A1 | 2008-08-22 |
| China | CN200710104947A | 2003-07-18 | 2023-07-18 | CN101070304A | 2007-11-14 |
| | CN200710104947A | 2003-07-18 | 2023-07-18 | CN101070304B | 2011-10-26 |
| | CN200780044808A | 2007-12-03 | 2027-12-03 | CN101547904A | 2009-09-30 |
| | CN2003817713A | 2003-07-18 | 2023-07-18 | CN1325475C | 2007-07-11 |
| EAPC | CN2003817713A | 2003-07-18 | 2023-07-18 | CN1671667A | 2005-09-21 |
| | EA200970532A | 2007-12-03 | 2027-12-03 | EA17091B1 | 2012-09-28 |
| | EA200970532A | 2007-12-03 | 2027-12-03 | EA17091B9 | 2014-10-30 |
| | EA200970532A | 2007-12-03 | 2027-12-03 | EA200970532A1 | 2009-10-30 |
| EPO | EA2005257A | 2003-07-18 | 2023-07-18 | EA8937B1 | 2007-10-26 |
| | EP2003771115A | 2003-07-18 | 2023-07-18 | EP1527050A1 | 2005-05-04 |
| | EP2003771115A | 2003-07-18 | 2023-07-18 | EP1527050B1 | 2010-04-07 |
| | EP2007847697A | 2007-12-03 | 2027-12-03 | EP2086940A1 | 2009-08-12 |
| | EP2007847697A | 2007-12-03 | 2027-12-03 | EP2086940B1 | 2012-05-16 |

BEDAQUILINE (JANSSEN)* - Continued

| Country | Application Number | Application Date | Expiration | Publication Number | Publication Date |
|--------------|--------------------|------------------|------------|--------------------|------------------|
| EPO | EP2010154018A | 2003-07-18 | 2023-07-18 | EP2301544A1 | 2011-03-30 |
| | EP2010154018A | 2003-07-18 | 2023-07-18 | EP2301544B1 | 2012-09-19 |
| India | IN2005DN220A | 2005-01-20 | 2025-01-20 | IN200500220P1 | 2009-03-13 |
| | IN2009MN1220A | 2009-06-29 | 2029-06-29 | IN200901220P3 | 2009-08-14 |
| | IN2005DN220A | 2005-01-20 | 2025-01-20 | IN236811B | 2009-11-27 |
| Malaysia | MY2003PI2793A | 2003-07-24 | 2023-07-24 | MY143564A | 2011-05-31 |
| | MY2009PI2284A | 2007-12-03 | 2027-12-03 | MY148844A | 2013-06-14 |
| Mexico | MX2005PA1052A | 2005-01-25 | 2025-01-25 | MX2005001052A | 2005-04-08 |
| | MX20095909A | 2009-06-04 | 2029-06-04 | MX2009005909A | 2009-06-16 |
| | MX20051052A | 2005-01-25 | 2025-01-25 | MX267497B | 2009-06-16 |
| | MX20095909A | 2009-06-04 | 2029-06-04 | MX305170B | 2012-11-12 |
| Moldova | ME2008P92A | 2003-07-18 | 2023-07-18 | ME2008P92A | 2010-06-10 |
| Peru | PE20071719A | 2007-12-05 | 2027-12-05 | PE20081350A1 | 2008-09-18 |
| Philippines | PH2005500234A | 2005-02-03 | 2025-02-03 | PH12005500234B1 | 2011-03-25 |
| | PH2009500858A | 2007-12-03 | 2027-12-03 | PH12009500858A | 2008-06-12 |
| | PH2009500858A | 2007-12-03 | 2027-12-03 | PH12009500858B1 | 2012-10-15 |
| | PH2010502363A | 2003-07-18 | 2023-07-18 | PH12010502363A | 2004-02-05 |
| | PH2010502363A | 2003-07-18 | 2023-07-18 | PH12010502363B1 | 2013-12-17 |
| Serbia | YUP20050058A | 2003-07-18 | 2023-07-18 | RS20050058A | 2007-06-04 |
| | RS2012P336A | 2007-12-03 | 2027-12-03 | RS52408B | 2013-02-28 |
| Serbia | YUP20050058A | 2003-07-18 | 2023-07-18 | RS52431B | 2013-02-28 |
| South Africa | ZA2005680A | 2005-01-24 | 2025-01-24 | ZA200500680A | 2006-08-30 |
| | ZA20093907A | 2009-06-04 | 2029-06-04 | ZA200903907A | 2013-08-28 |
| Ukraine | UA20051778A | 2003-07-18 | 2023-07-18 | UA82198C2 | 2008-03-25 |
| | UA20094218A | 2007-12-03 | 2027-12-03 | UA97813C2 | 2012-03-26 |
| Uruguay | UY200730762A | 2007-12-05 | 2027-12-05 | UY30762A1 | 2008-07-03 |
| Vietnam | VN20041363A | 2003-07-18 | 2023-07-18 | VN10010819B | 2012-12-25 |
| | VN2009771A | 2007-12-03 | 2027-12-03 | VN10010953B | 2013-01-25 |
| WIPO | WO2003EP50322A | 2003-07-18 | 2023-07-18 | WO2004011436A1 | 2004-02-05 |
| | WO2007EP63186A | 2007-12-03 | 2027-12-03 | WO2008068231A1 | 2008-06-12 |

* This report has not been submitted to the supplier company for review. As such, the current legal status of the publications in this Table is unknown (e.g., application, grant, lapsed, rejected). According to the Merck Index, there may be patent protection on the compound (see WO2004011436 and US7498343).

BENDAMUSTINE (CEPHALON)*

| Country | Application Number | Application Date | Expiration | Publication Number | Publication Date |
|--------------|--------------------|------------------|------------|--------------------|------------------|
| Argentina | AR2006100158A | 2006-01-13 | 2026-01-13 | AR52877A1 | 2007-04-11 |
| | AR2009101039A | 2009-03-23 | 2029-03-23 | AR72777A1 | 2010-09-22 |
| Brazil | BR20066332A | 2006-01-13 | 2026-01-13 | BRPI0606332A2 | 2009-11-17 |
| China | CN200680002440A | 2006-01-13 | 2026-01-13 | CN101119708A | 2008-02-06 |
| | CN200680002440A | 2006-01-13 | 2026-01-13 | CN101119708B | 2014-12-24 |
| | CN200980110767A | 2009-03-26 | 2029-03-26 | CN101980698A | 2011-02-23 |
| | CN200980110767A | 2009-03-26 | 2029-03-26 | CN101980698B | 2013-10-16 |
| | CN201010621759A | 2006-01-13 | 2026-01-13 | CN102078305A | 2011-06-01 |
| | CN201010621759A | 2006-01-13 | 2026-01-13 | CN102078305B | 2014-05-28 |
| | CN201310415249A | 2009-03-26 | 2029-03-26 | CN103550159A | 2014-02-05 |
| EAPC | EA20071511A | 2006-01-13 | 2026-01-13 | EA13324B1 | 2010-04-30 |
| | EA20071511A | 2006-01-13 | 2026-01-13 | EA200701511A1 | 2007-12-28 |
| EPO | EP2006718390A | 2006-01-13 | 2026-01-13 | EP1863452A2 | 2007-12-12 |
| | EP2006718390A | 2006-01-13 | 2026-01-13 | EP1863452B1 | 2013-04-03 |
| | EP2009723661A | 2009-03-26 | 2029-03-26 | EP2271315A2 | 2011-01-12 |
| | EP2012191786A | 2006-01-13 | 2026-01-13 | EP2574334A1 | 2013-04-03 |
| India | IN2007KN2767A | 2007-07-27 | 2027-07-27 | IN200702767P2 | 2007-08-31 |
| Mexico | MX20078562A | 2007-07-13 | 2027-07-13 | MX2007008562A | 2007-09-07 |
| | MX201010398A | 2010-09-23 | 2030-09-23 | MX2010010398A | 2010-12-20 |
| | MX20078562A | 2007-07-13 | 2027-07-13 | MX304093B | 2012-10-08 |
| | MX201010398A | 2010-09-23 | 2030-09-23 | MX313649B | 2013-09-26 |
| Philippines | PH2007501445A | 2007-07-05 | 2027-07-05 | PH12007501445B1 | 2013-11-29 |
| South Africa | ZA20075793A | 2007-07-13 | 2027-07-13 | ZA200705793A | 2008-09-25 |
| Ukraine | UA20079242A | 2006-01-13 | 2026-01-13 | UA94036C2 | 2011-04-11 |
| WIPO | WO2006US1308A | 2006-01-13 | 2026-01-13 | WO2006076620A2 | 2006-07-20 |

BENDAMUSTINE (CEPHALON)* - Continued

| Country | Application Number | Application Date | Expiration | Publication Number | Publication Date |
|---------|--------------------|------------------|------------|--------------------|------------------|
| WIPO | WO2006US1308A | 2006-01-13 | 2026-01-13 | WO2006076620A3 | 2006-12-28 |
| | WO2009US1956A | 2009-03-26 | 2029-03-26 | WO2009120386A2 | 2009-10-01 |
| | WO2009US1956A | 2009-03-26 | 2029-03-26 | WO2009120386A3 | 2009-12-03 |

* This report has not been submitted to the supplier company for review. As such, the current legal status of the publications in this Table is unknown (e.g., application, grant, lapsed, rejected).

DARUNAVIR (JANSSEN)*

| Country | Application Number | Application Date | Expiration | Publication Number | |
|---------------|--------------------|------------------|------------|--------------------|---------------|
| Argentina | AR2002104805A | 2002-12-11 | 2022-12-11 | AR37797A1 | |
| ARIPO | AP20043191A | 2003-05-16 | 2023-05-16 | AP200403191D0 | |
| | AP20043191A | 2003-05-16 | 2023-05-16 | AP2052A | |
| Brazil | BR200215043A | 2002-12-12 | 2022-12-12 | BR200215043A | |
| | BR200311176A | 2003-05-16 | 2023-05-16 | BR200311176A | |
| China | CN2002824911A | 2002-12-12 | 2022-12-12 | CN100335060C | |
| | CN2003816459A | 2003-05-16 | 2023-05-16 | CN100475819C | |
| | CN2002824911A | 2002-12-12 | 2022-12-12 | CN1604803A | |
| | CN2003816459A | 2003-05-16 | 2023-05-16 | CN1668623A | |
| EAPC | EA20041503A | 2003-05-16 | 2023-05-16 | EA7120B1 | |
| | EA20041503A | 2003-05-16 | 2023-05-16 | EA7120B8 | |
| EPO | EP1999931861A | 1999-06-23 | 2019-06-23 | EP1088098A2 | |
| | EP1999931861A | 1999-06-23 | 2019-06-23 | EP1088098B1 | |
| | EP2001204308A | 1996-06-28 | 2016-06-28 | EP1210941A2 | |
| | EP2001204308A | 1996-06-28 | 2016-06-28 | EP1210941A3 | |
| | EP200279002A | 1996-06-28 | 2016-06-28 | EP1273298A2 | |
| | EP200279002A | 1996-06-28 | 2016-06-28 | EP1273298A3 | |
| | EP200279003A | 1996-06-28 | 2016-06-28 | EP1284140A2 | |
| | EP200279003A | 1996-06-28 | 2016-06-28 | EP1284140A3 | |
| | EP200279003A | 1996-06-28 | 2016-06-28 | EP1284140B1 | |
| | EP200279004A | 1996-06-28 | 2016-06-28 | EP1293207A1 | |
| | EP200279004A | 1996-06-28 | 2016-06-28 | EP1293207B1 | |
| | EP2002793018A | 2002-12-12 | 2022-12-12 | EP1458447A2 | |
| | EP2002793018A | 2002-12-12 | 2022-12-12 | EP1458447B1 | |
| | EP2003753571A | 2003-05-16 | 2023-05-16 | EP1567529A2 | |
| | EP2003753571A | 2003-05-16 | 2023-05-16 | EP1567529B1 | |
| | EP2009166053A | 1996-06-28 | 2016-06-28 | EP2130534A1 | |
| | EP2010185624A | 1996-06-28 | 2016-06-28 | EP2295052A1 | |
| | EPO | EP2010185624A | 1996-06-28 | 2016-06-28 | EP2295052B1 |
| | | EP2010180831A | 2003-05-16 | 2023-05-16 | EP2314591A1 |
| EP2010180831A | | 2003-05-16 | 2023-05-16 | EP2314591B1 | |
| EP2010179052A | | 1999-06-23 | 2019-06-23 | EP2336134A1 | |
| EP2014168686A | | 2003-05-16 | 2023-05-16 | EP2767539A1 | |
| EP1994927162A | | 1994-08-23 | 2014-08-23 | EP715618A1 | |
| EP1994927162A | | 1994-08-23 | 2014-08-23 | EP715618B1 | |
| EP1996922604A | | 1996-06-28 | 2016-06-28 | EP871465A1 | |
| EP1996922604A | | 1996-06-28 | 2016-06-28 | EP871465B1 | |
| Hungary | | HU20042644A | 2002-12-12 | 2022-12-12 | HU200402644A2 |
| | HU20042644A | 2002-12-12 | 2022-12-12 | HU200402644A3 | |
| India | IN2004DN1647A | 2004-06-11 | 2024-06-11 | IN200401647P1 | |
| | IN2004DN3598A | 2004-11-17 | 2024-11-17 | IN200403598P1 | |
| | IN2008DN2221A | 2008-03-14 | 2028-03-14 | IN200802221P1 | |
| Mexico | MX199710403A | 1997-12-18 | 2017-12-18 | MX199710403A | |
| | MX20045755A | 2004-06-14 | 2024-06-14 | MX2004005755A | |
| | MX2004PA11427A | 2004-11-16 | 2024-11-16 | MX2004011427A | |
| | MX20045755A | 2004-06-14 | 2024-06-14 | MX259330B | |
| | MX200411427A | 2004-11-16 | 2024-11-16 | MX273280B | |
| | MX200311678A | 1997-12-18 | 2017-12-18 | MX284424B | |
| | MX200311677A | 1997-12-18 | 2017-12-18 | MX284425B | |
| Philippines | PH199653535A | 1996-06-27 | 2016-06-27 | PH199653535B1 | |
| | PH2004500880A | 2004-06-11 | 2024-06-11 | PH12004500880B1 | |

DARUNAVIR (JANSSEN)* - Continued

| Country | Application Number | Application Date | Expiration | Publication Number |
|--------------|--------------------|------------------|------------|--------------------|
| | PH2004501839A | 2004-11-12 | 2024-11-12 | PH12004501839B1 |
| Russia | RU2004121144A | 2002-12-12 | 2022-12-12 | RU2004121144A |
| | RU2004121144A | 2002-12-12 | 2022-12-12 | RU2329050C2 |
| South Africa | ZA20044633A | 2004-06-10 | 2024-06-10 | ZA200404633A |
| | ZA200410154A | 2004-12-15 | 2024-12-15 | ZA200410154A |
| WIPO | WO1994US9139A | 1994-08-23 | 2014-08-23 | WO1995006030A1 |
| | WO1996US11015A | 1996-06-28 | 2016-06-28 | WO1997001349A1 |
| | WO1999US14120A | 1999-06-23 | 2019-06-23 | WO1999067254A2 |
| | WO1999US14120A | 1999-06-23 | 2019-06-23 | WO1999067254A3 |
| | WO1999US14119A | 1999-06-23 | 2019-06-23 | WO1999067417A2 |
| | WO1999US14119A | 1999-06-23 | 2019-06-23 | WO1999067417A3 |
| | WO2002EP14277A | 2002-12-12 | 2022-12-12 | WO2003049746A2 |
| | WO2002EP14277A | 2002-12-12 | 2022-12-12 | WO2003049746A3 |
| | WO2003EP50176A | 2003-05-16 | 2023-05-16 | WO2003106461A2 |
| | WO2003EP50176A | 2003-05-16 | 2023-05-16 | WO2003106461A3 |

* This report has not been submitted to the supplier company for review. As such, the current legal status of the publications in this Table is unknown (e.g., application, grant, lapsed, rejected). According to the Merck Index, there may be patent protection on the compound (see WO03106461 and US2005250845).

DELAMANID (OTSUKA)*

| Country | Application Number | Application Date | Expiration | Publication Number | Publication Date |
|--------------|--------------------|------------------|------------|--------------------|------------------|
| Argentina | ARP030103730 | 2003-10-14 | 2023-10-14 | AR041605A1 | 2005-05-26 |
| Brazil | BRPI0313566 | 2003-10-14 | 2023-10-14 | BRPI0313566A | 2005-06-21 |
| China | CN200380100667 | 2003-10-14 | 2023-10-14 | CN1326840C | 2007-07-18 |
| | CN200380100667 | 2003-10-14 | 2023-10-14 | CN1692103A | 2005-11-02 |
| Egypt | EGNA2005000131 | 2005-04-12 | 2025-04-12 | EG24885A | 2010-12-06 |
| EPO | EP03756610 | 2003-10-14 | 2023-10-14 | EPI553088A1 | 2005-07-13 |
| | EP03756610 | 2003-10-14 | 2023-10-14 | EPI553088A4 | 2011-03-02 |
| | EP13174291 | 2003-10-14 | 2023-10-14 | EP2644599A1 | 2013-10-02 |
| | EP13174291 | 2003-10-14 | 2023-10-14 | EP2644599B1 | 2014-12-10 |
| India | IN605KOLNP2005 | 2005-04-08 | 2025-04-08 | IN219525A1 | 2008-05-09 |
| | IN605KOLNP2005 | 2005-04-08 | 2025-04-08 | IN605KOLNP2005A | 2006-03-24 |
| Malaysia | MYPI 20033919 | 2003-10-14 | 2023-10-14 | MY145079A | 2011-12-15 |
| Mexico | MXPA05002414 | 2005-03-02 | 2025-03-02 | MXPA05002414A | 2005-06-22 |
| Russia | RU2005114534 | 2003-10-14 | 2023-10-14 | RU2005114534A | 2006-01-20 |
| | RU2005114534 | 2003-10-14 | 2023-10-14 | RU2324682C2 | 2008-05-20 |
| South Africa | ZA200500918 | 2003-10-14 | 2023-10-14 | ZA200500918A | 2006-12-27 |
| Ukraine | UA2005003528 | 2003-10-14 | 2023-10-14 | UA80839C2 | 2007-11-12 |
| | UA2007005133 | 2003-10-14 | 2023-10-14 | UA88925C2 | 2009-12-10 |
| WIPO | WOJP03013134 | 2003-10-14 | 2023-10-14 | WO2004035547A1 | 2004-04-29 |

* This report has not been submitted to the supplier company for review. As such, the current legal status of the publications in this Table is unknown (e.g., application, grant, lapsed, rejected). According to the Merck Index, there may be patent protection on the compound (see WO2004035547 and US7368579).

ENTECAVIR (BMS)*

| Country | Application Number | Application Date | Expiration | Publication Number | Publication Date |
|---------|--------------------|------------------|------------|--------------------|------------------|
| Brazil | BR1100846A | 1997-05-12 | 2017-05-12 | BR1100846A3 | 2000-04-18 |

* This report has not been submitted to the supplier company for review. As such, the current legal status of the publications in this Table is unknown (e.g., application, grant, lapsed, rejected). Note that generics are available for entecavir with the exception of the oral liquid formulation specified in the 2015 MLEM.

ETONOGESTREL-RELEASING IMPLANT (ORGANON)*

| Country | Application Number | Application Date | Expiration | Publication Number | Publication Date |
|--------------|--------------------|------------------|------------|--------------------|------------------|
| Argentina | AR2005101064A | 2005-03-18 | 2025-03-18 | AR48106A1 | 2006-03-29 |
| | AR2006100233A | 2006-01-23 | 2026-01-23 | AR56923A1 | 2007-11-07 |
| Brazil | BR20058865A | 2005-03-14 | 2025-03-14 | BR200508865A | 2007-09-04 |
| | BR20066826A | 2006-01-20 | 2026-01-20 | BRPI0606826A2 | 2010-02-09 |
| China | CN200680003057A | 2006-01-20 | 2026-01-20 | CN101141994A | 2008-03-12 |
| | CN200680003057A | 2006-01-20 | 2026-01-20 | CN101141994B | 2010-10-13 |
| | CN200780040707A | 2007-10-23 | 2027-10-23 | CN101536456A | 2009-09-16 |
| | CN200580008508A | 2005-03-14 | 2025-03-14 | CN1953770A | 2007-04-25 |
| | CN200580008508A | 2005-03-14 | 2025-03-14 | CN1953770B | 2011-10-12 |
| Ecuador | EC2006SP6865A | 2006-09-19 | 2026-09-19 | EC2006SP6865A | 2006-11-24 |
| Egypt | EG2006NA870A | 2006-09-17 | 2026-09-17 | EG24359A | 2009-03-04 |
| EPO | EP2005717030A | 2005-03-14 | 2025-03-14 | EPI729819A1 | 2006-12-13 |
| | EP2005717030A | 2005-03-14 | 2025-03-14 | EPI729819B1 | 2008-07-02 |
| | EP2006707776A | 2006-01-20 | 2026-01-20 | EPI841492A1 | 2007-10-10 |
| | EP2007874085A | 2007-10-23 | 2027-10-23 | EP2105004A2 | 2009-09-30 |
| India | IN2007CN3246A | 2007-07-23 | 2027-07-23 | IN200703246P4 | 2007-11-16 |
| | IN2009CN2437A | 2009-04-29 | 2029-04-29 | IN200902437P4 | 2010-04-02 |
| Malaysia | MY2005PI1159A | 2005-03-17 | 2025-03-17 | MY142649A | 2010-12-15 |
| Mexico | MX2006PA10714A | 2006-09-19 | 2026-09-19 | MX2006010714A | 2007-03-08 |
| | MX20078881A | 2007-07-23 | 2027-07-23 | MX2007008881A | 2007-08-14 |
| | MX20078881A | 2007-07-23 | 2027-07-23 | MX281122B | 2010-11-19 |
| Peru | PE2005311A | 2005-03-18 | 2025-03-18 | PE20060022A1 | 2006-02-11 |
| | PE200698A | 2006-01-23 | 2026-01-23 | PE20061216A1 | 2006-12-18 |
| Russia | RU2006136913A | 2005-03-14 | 2025-03-14 | RU2006136913A | 2008-04-27 |
| | RU2007132007A | 2006-01-20 | 2026-01-20 | RU2007132007A | 2009-02-27 |
| | RU2007132007A | 2006-01-20 | 2026-01-20 | RU2361627C2 | 2009-07-20 |
| | RU2006136913A | 2005-03-14 | 2025-03-14 | RU2384347C2 | 2010-03-20 |
| South Africa | ZA20067602A | 2006-09-11 | 2026-09-11 | ZA200607602A | 2008-05-28 |
| | ZA20075962A | 2007-07-17 | 2027-07-17 | ZA200705962A | 2009-01-28 |
| Ukraine | UA20069906A | 2005-03-14 | 2025-03-14 | UA86404C2 | 2009-04-27 |
| | UA20079605A | 2006-01-20 | 2026-01-20 | UA88674C2 | 2009-11-10 |
| WIPO | WO2005EP51150A | 2005-03-14 | 2025-03-14 | WO2005089814A1 | 2005-09-29 |
| | WO2006EP50328A | 2006-01-20 | 2026-01-20 | WO2006077242A1 | 2006-07-27 |
| | WO2007US22444A | 2007-10-23 | 2027-10-23 | WO2008133644A2 | 2008-11-06 |
| | WO2007US22444A | 2007-10-23 | 2027-10-23 | WO2008133644A3 | 2009-04-09 |

* This report has not been submitted to the supplier company for review. As such, the current legal status of the publications in this Table is unknown (e.g., application, grant, lapsed, rejected).

IMATINIB (NOVARTIS)*

| Country | Application Number | Application Date | Expiration | Publication Number | Publication Date |
|--------------|--------------------|------------------|------------|--------------------|------------------|
| Argentina | ARP19980103483A | 1998-07-16 | 2018-07-16 | AR16351A1 | 2001-07-04 |
| | ARP20030101383A | 2003-04-22 | 2023-04-22 | AR39335A1 | 2005-02-16 |
| | ARP20040102891A | 2004-08-12 | 2024-08-12 | AR43266A2 | 2005-07-27 |
| | ARP20090102074A | 2009-06-09 | 2029-06-09 | AR72755A2 | 2010-09-22 |
| | ARP20110104655A | 2011-12-13 | 2031-12-13 | AR84101A2 | 2013-04-24 |
| Brazil | BR1100739A | 1997-05-09 | 2017-05-09 | BR1100739A3 | 1998-05-05 |
| | BR199810920A | 1998-07-16 | 2018-07-16 | BR199810920A | 2000-08-15 |
| | BR200114870A | 2001-10-26 | 2021-10-26 | BR200114870A | 2004-02-17 |
| | BR20039528A | 2003-04-22 | 2023-04-22 | BR20039528A | 2005-02-15 |
| | BR2011739A | 1997-05-09 | 2017-05-09 | BR201100739A | 2000-06-06 |
| China | CN200910142577A | 2003-04-22 | 2023-04-22 | CN101653424A | 2010-02-24 |
| | CN1998807303A | 1998-07-16 | 2018-07-16 | CN1134430C | 2004-01-14 |
| | CN1998807303A | 1998-07-16 | 2018-07-16 | CN1264375A | 2000-08-23 |
| | CN2001817895A | 2001-10-26 | 2021-10-26 | CN1276754C | 2006-09-27 |
| | CN2001817895A | 2001-10-26 | 2021-10-26 | CN1622808A | 2005-06-01 |
| | CN2003808869A | 2003-04-22 | 2023-04-22 | CN1646103A | 2005-07-27 |
| Colombia | CO199838983A | 1998-07-09 | 2018-07-09 | CO4940418A1 | 2000-07-24 |
| EPO | EP2001988712A | 2001-10-26 | 2021-10-26 | EPI332137A2 | 2003-08-06 |
| | EP2001988712A | 2001-10-26 | 2021-10-26 | EPI332137B1 | 2006-03-29 |
| | EP2003722519A | 2003-04-22 | 2023-04-22 | EPI501485A1 | 2005-02-02 |
| | EP2003722519A | 2003-04-22 | 2023-04-22 | EPI501485B1 | 2007-09-26 |
| | EPI994927633A | 1994-09-21 | 2014-09-21 | EP672040A1 | 1995-09-20 |
| | EPI998941342A | 1998-07-16 | 2018-07-16 | EP998473A1 | 2000-05-10 |
| | EPI998941342A | 1998-07-16 | 2018-07-16 | EP998473B1 | 2003-10-01 |
| Hungary | HU20003230A | 1998-07-16 | 2018-07-16 | HU200003230A2 | 2001-06-28 |
| | HU20003230A | 1998-07-16 | 2018-07-16 | HU200003230A3 | 2002-01-28 |
| | HU20031512A | 2001-10-26 | 2021-10-26 | HU200301512A2 | 2003-11-28 |
| | HU20031512A | 2001-10-26 | 2021-10-26 | HU229106B1 | 2013-07-29 |
| India | IN1998CH1602A | 1998-07-17 | 2018-07-17 | IN199801602I4 | 2005-10-28 |
| | IN2004CH799A | 2004-08-12 | 2024-08-12 | IN200400799I4 | 2006-10-06 |
| | IN2004CN2382A | 2004-10-20 | 2024-10-20 | IN200402382P4 | 2007-09-21 |
| | IN2005CH1075A | 2005-08-05 | 2025-08-05 | IN200501075I4 | 2007-09-28 |
| | IN2005CH1750A | 2005-11-30 | 2025-11-30 | IN200501750I4 | 2007-09-14 |
| | IN2009CN687A | 2009-02-05 | 2029-02-05 | IN200900687P4 | 2009-05-29 |
| | IN2004CN2382A | 2004-10-20 | 2024-10-20 | IN237489B | 2010-01-01 |
| | Indonesia | ID200051A | 1998-07-16 | 2018-07-16 | ID24093A |
| Malaysia | MY2004PI3263A | 1998-07-17 | 2018-07-17 | MY128664A | 2007-02-28 |
| | MY1998PI3282A | 1998-07-17 | 2018-07-17 | MY129772A | 2007-04-30 |
| | MY2003PI1513A | 2003-04-22 | 2023-04-22 | MY136406A | 2008-09-30 |
| Mexico | MX2000620A | 2000-01-17 | 2020-01-17 | MX2000000620A | 2001-01-01 |
| | MX20033703A | 2003-04-25 | 2023-04-25 | MX2003003703A | 2005-02-01 |
| | MX2003PA3703A | 2003-04-25 | 2023-04-25 | MX2003PA003703A | 2005-01-25 |
| | MX2004PA10496A | 2004-10-22 | 2024-10-22 | MX2004010496A | 2004-12-13 |
| | MX2004PA10496A | 2004-10-22 | 2024-10-22 | MX2004PA010496A | 2004-12-13 |
| | MX2000620A | 2000-01-17 | 2020-01-17 | MX218673B | 2004-01-12 |
| | MX20033703A | 2003-04-25 | 2023-04-25 | MX244404B | 2007-03-23 |
| | MX200410496A | 2004-10-22 | 2024-10-22 | MX252475B | 2007-12-13 |
| Peru | PE1998632A | 1998-07-16 | 2018-07-16 | PE19990978A1 | 1999-10-29 |
| | PE2003398A | 2003-04-22 | 2023-04-22 | PE20031045A1 | 2004-02-10 |
| Philippines | PH19981828A | 1998-07-15 | 2018-07-15 | PH199801828B1 | 2005-12-02 |
| | PH2005174A | 2005-03-31 | 2025-03-31 | PH1200500174B1 | 2011-06-29 |
| Russia | RU2004134323A | 2003-04-22 | 2023-04-22 | RU2004134323A | 2005-08-10 |
| | RU2000102914A | 1998-07-16 | 2018-07-16 | RU2208012C2 | 2003-07-10 |
| | RU2003114752A | 2001-10-26 | 2021-10-26 | RU2301066C2 | 2007-06-20 |
| | RU2004134323A | 2003-04-22 | 2023-04-22 | RU2363450C2 | 2009-08-10 |
| | RU2009112955A | 2009-04-08 | 2029-04-08 | RU2405540C1 | 2010-12-10 |
| South Africa | ZA19986362A | 1998-07-17 | 2018-07-17 | ZA199806362A | 1999-01-22 |
| | ZA20032155A | 2003-03-18 | 2023-03-18 | ZA200302155A | 2004-04-22 |
| | ZA20048441A | 2004-10-19 | 2024-10-19 | ZA200408441A | 2005-06-27 |
| Turkey | TR200060T | 1998-07-16 | 2018-07-16 | TR200000060T2 | 2000-09-21 |
| WIPO | WO1994EP3149A | 1994-09-21 | 2014-09-21 | WO1995009852A1 | 1995-04-13 |
| | WO1998EP4427A | 1998-07-16 | 2018-07-16 | WO1999003854A1 | 1999-01-28 |
| | WO2001EP12442A | 2001-10-26 | 2021-10-26 | WO2002034727A2 | 2002-05-02 |
| | WO2001EP12442A | 2001-10-26 | 2021-10-26 | WO2002034727A3 | 2003-03-27 |
| | WO2003EP4151A | 2003-04-22 | 2023-04-22 | WO2003090720A1 | 2003-11-06 |

* This report has not been submitted to the supplier company for review. As such, the current legal status of the publications in this Table is unknown (e.g., application, grant, lapsed, rejected). According to the Merck Index, there may be patent protection on the compound (see EP564409 or US5521184).

LEDIPASVIR + SOFOSBUVIR (GILEAD)*

| Country | Application Number | Application Date | Expiration | Publication Number | Publication Date |
|---------------|--------------------|------------------|-------------|--------------------|------------------|
| Argentina | ARP20080101286A | 2008-03-28 | 2028-03-28 | AR66898A1 | 2009-09-23 |
| | ARP20100101639A | 2010-05-12 | 2030-05-12 | AR76765A1 | 2011-07-06 |
| | ARP20110101095A | 2011-03-31 | 2031-03-31 | AR80819A1 | 2012-05-09 |
| | ARP20110101096A | 2011-03-31 | 2031-03-31 | AR80870A1 | 2012-05-16 |
| | ARP20110101097A | 2011-03-31 | 2031-03-31 | AR81813A1 | 2012-10-24 |
| | ARP20100101753A | 2010-05-20 | 2030-05-20 | AR82937A1 | 2013-01-23 |
| ARIPO | AP20115987A | 2010-05-12 | 2030-05-12 | AP201105987D0 | 2011-12-31 |
| | AP20126535A | 2011-03-31 | 2031-03-31 | AP201206535D0 | 2012-10-31 |
| | AP20126543A | 2011-03-31 | 2031-03-31 | AP201206543D0 | 2012-10-31 |
| Chile | CL2008902A | 2008-03-28 | 2028-03-28 | CL2008000902A1 | 2008-11-07 |
| China | CN200880018024A | 2008-03-26 | 2028-03-26 | CN101918425A | 2010-12-15 |
| | CN201080032541A | 2010-05-20 | 2030-05-20 | CN102459299A | 2012-05-16 |
| | CN201080029503A | 2010-05-12 | 2030-05-12 | CN102596936A | 2012-07-18 |
| | CN201080029503A | 2010-05-12 | 2030-05-12 | CN102596936B | 2014-06-11 |
| | CN201180017181A | 2011-03-31 | 2031-03-31 | CN102858790A | 2013-01-02 |
| | CN201180023066A | 2011-03-31 | 2031-03-31 | CN102906102A | 2013-01-30 |
| | CN201410226164A | 2010-05-12 | 2030-05-12 | CN103977406A | 2014-08-13 |
| | CN201410227599A | 2010-05-12 | 2030-05-12 | CN104016971A | 2014-09-03 |
| | CN201410247228A | 2011-03-31 | 2031-03-31 | CN104017020A | 2014-09-03 |
| | Colombia | CO2009120744A | 2009-10-27 | 2029-10-27 | CO6260023A2 |
| CO2011158583A | | 2011-11-21 | 2031-11-21 | CO6470789A2 | 2012-06-29 |
| CO2011164618A | | 2011-11-30 | 2031-11-30 | CO6470842A2 | 2012-06-29 |
| CO2012195599A | | 2012-10-30 | 2032-10-30 | CO6630166A2 | 2013-03-01 |
| CO2012195602A | | 2012-10-30 | 2032-10-30 | CO6630167A2 | 2013-03-01 |
| Costa Rica | CR201220120532A | 2012-10-18 | 2032-10-18 | CR20120532A | 2013-02-05 |
| | CR201220120534A | 2012-10-18 | 2032-10-18 | CR20120534A | 2013-02-05 |
| EAPC | EA201171417A | 2010-05-20 | 2030-05-20 | EA201171417A1 | 2012-05-30 |
| | EA201190259A | 2010-05-12 | 2030-05-12 | EA201190259A1 | 2013-01-30 |
| | EA201290988A | 2011-03-31 | 2031-03-31 | EA201290988A1 | 2013-04-30 |
| | EA201290993A | 2011-03-31 | 2031-03-31 | EA201290993A1 | 2013-04-30 |
| | EA201490853A | 2010-05-12 | 2030-05-12 | EA201490853A1 | 2014-09-30 |
| | EA201490854A | 2010-05-12 | 2030-05-12 | EA201490854A1 | 2014-09-30 |
| Ecuador | EC2011SP11517A | 2011-12-12 | 2031-12-12 | EC2011SP011517A | 2012-01-31 |
| EPO | EP2008732818A | 2008-03-26 | 2028-03-26 | EP2203462A2 | 2010-07-07 |
| | EP2008732818A | 2008-03-26 | 2028-03-26 | EP2203462B1 | 2014-05-21 |
| | EP2010720970A | 2010-05-12 | 2030-05-12 | EP2430014A1 | 2012-03-21 |
| | EP2010721225A | 2010-05-20 | 2030-05-20 | EP2432792A1 | 2012-03-28 |
| | EP2011714465A | 2011-03-31 | 2031-03-31 | EP2552930A2 | 2013-02-06 |
| | EP2011714466A | 2011-03-31 | 2031-03-31 | EP2552931A2 | 2013-02-06 |
| | EP2011714466A | 2011-03-31 | 2031-03-31 | EP2552931B1 | 2014-07-23 |
| | EP2011714467A | 2011-03-31 | 2031-03-31 | EP2552933A1 | 2013-02-06 |
| | EP2013159791A | 2011-03-31 | 2031-03-31 | EP2609923A2 | 2013-07-03 |
| | EP2013159791A | 2011-03-31 | 2031-03-31 | EP2609923A3 | 2014-07-30 |
| | EP2013159903A | 2010-05-20 | 2030-05-20 | EP2610264A2 | 2013-07-03 |
| | EP2013159903A | 2010-05-20 | 2030-05-20 | EP2610264A3 | 2014-01-22 |
| | EP2014163247A | 2011-03-31 | 2031-03-31 | EP2752422A1 | 2014-07-09 |
| | EP2014151876A | 2008-03-26 | 2028-03-26 | EP2792680A1 | 2014-10-22 |
| EP2014169060A | 2008-03-26 | 2028-03-26 | EP2801580A1 | 2014-11-12 | |
| India | IN2009KN3658A | 2009-10-20 | 2029-10-20 | IN200903658P2 | 2010-03-19 |
| | IN2011DN9313A | 2011-11-28 | 2031-11-28 | IN201109313P1 | 2013-02-22 |
| Indonesia | ID2012W4457A | 2012-10-31 | 2032-10-31 | ID201301341A | 2013-04-25 |
| Malaysia | MY2009PI4079A | 2008-03-26 | 2028-03-26 | MY147409A | 2012-11-30 |
| Mexico | MX200910401A | 2009-09-28 | 2029-09-28 | MX2009010401A | 2009-11-10 |
| | MX201112058A | 2011-11-11 | 2031-11-11 | MX2011012058A | 2012-04-02 |
| | MX201112417A | 2011-11-18 | 2031-11-18 | MX2011012417A | 2012-01-25 |
| | MX201211171A | 2012-09-26 | 2032-09-26 | MX2012011171A | 2013-02-01 |
| | MX201211324A | 2012-09-28 | 2032-09-28 | MX20120111324A | 2013-02-21 |
| | MX200910401A | 2009-09-28 | 2029-09-28 | MX296818B | 2012-03-06 |
| | MX201112417A | 2011-11-18 | 2031-11-18 | MX320108B | 2014-05-13 |
| | MX201112058A | 2011-11-11 | 2031-11-11 | MX321028B | 2014-06-12 |
| Peru | PE20111965A | 2010-05-12 | 2030-05-12 | PE20120509A1 | 2012-05-09 |
| | PE20121822A | 2011-03-31 | 2031-03-31 | PE20130151A1 | 2013-02-21 |
| | PE20121750A | 2011-03-31 | 2031-03-31 | PE20130183A1 | 2013-02-21 |
| Philippines | PH2009501847A | 2008-03-26 | 2028-03-26 | PH12009501847A | 2008-10-09 |

LEDIPASVIR + SOFOSBUVIR (GILEAD)* - Continued

| Country | Application Number | Application Date | Expiration | Publication Number | Publication Date |
|--------------|--------------------|------------------|------------|--------------------|------------------|
| Russia | RU2009139968A | 2008-03-26 | 2028-03-26 | RU2009139968A | 2011-05-10 |
| | RU2012152811A | 2012-12-07 | 2032-12-07 | RU2012152811A | 2014-06-20 |
| | RU2009139968A | 2008-03-26 | 2028-03-26 | RU2478104C2 | 2013-03-27 |
| South Africa | ZA20118436A | 2011-11-17 | 2031-11-17 | ZA201108436A | 2013-01-30 |
| | ZA20118749A | 2011-11-29 | 2031-11-29 | ZA201108749A | 2013-05-29 |
| | ZA2012310A | 2012-01-16 | 2032-01-16 | ZA201200310A | 2013-05-29 |
| | ZA20127800A | 2012-10-17 | 2032-10-17 | ZA201207800A | 2013-05-29 |
| | ZA20131620A | 2013-03-04 | 2033-03-04 | ZA201301620A | 2013-10-30 |
| Uruguay | UY201032629A | 2010-05-12 | 2030-05-12 | UY32629A | 2010-12-31 |
| | UY201133310A | 2011-03-31 | 2031-03-31 | UY33310A | 2011-10-31 |
| | UY201133311A | 2011-03-31 | 2031-03-31 | UY33311A | 2011-10-31 |
| | UY201133312A | 2011-03-31 | 2031-03-31 | UY33312A | 2011-10-31 |
| Vietnam | VN20113386A | 2010-05-12 | 2030-05-12 | VN32065A | 2013-01-25 |
| WIPO | WO2008US58183A | 2008-03-26 | 2028-03-26 | WO2008121634A2 | 2008-10-09 |
| | WO2008US58183A | 2008-03-26 | 2028-03-26 | WO2008121634A3 | 2010-05-20 |
| | WO2010US34600A | 2010-05-12 | 2030-05-12 | WO2010132601A1 | 2010-11-18 |
| | WO2010US35641A | 2010-05-20 | 2030-05-20 | WO2010135569A1 | 2010-11-25 |
| | WO2011US30725A | 2011-03-31 | 2031-03-31 | WO2011123645A2 | 2011-10-06 |
| | WO2011US30725A | 2011-03-31 | 2031-03-31 | WO2011123645A3 | 2011-12-29 |
| | WO2011US30762A | 2011-03-31 | 2031-03-31 | WO2011123668A2 | 2011-10-06 |
| | WO2011US30762A | 2011-03-31 | 2031-03-31 | WO2011123668A3 | 2012-05-24 |
| | WO2011US30767A | 2011-03-31 | 2031-03-31 | WO2011123672A1 | 2011-10-06 |

* This report has not been submitted to the supplier company for review. As such, the current legal status of the publications in this Table is unknown (e.g., application, grant, lapsed, rejected). According to the Merck Index, there may be patent protection on the compound (see WO2010135569).

OXALIPLATIN (SANOFI AVENTIS)*

| Country | Application Number | Application Date | Expiration | Publication Number | Publication Date |
|---------|--------------------|------------------|------------|--------------------|------------------|
| Brazil | BR19958554A | 1995-08-07 | 2015-08-07 | BR199508554A | 1997-11-25 |
| China | CN1995194443A | 1995-08-07 | 2015-08-07 | CN1138541C | 2004-02-18 |
| | CN1995194443A | 1995-08-07 | 2015-08-07 | CN1154654A | 1997-07-16 |
| EPO | EP1995925976A | 1995-08-07 | 2015-08-07 | EP774963A1 | 1997-05-28 |
| | EP1995925976A | 1995-08-07 | 2015-08-07 | EP774963B1 | 2000-11-02 |
| Russia | RU1997104030A | 1995-08-07 | 2015-08-07 | RU2148400C1 | 2000-05-10 |
| WIPO | WO1995IB614A | 1995-08-07 | 2015-08-07 | WO1996004904A1 | 1996-02-22 |

* This report has not been submitted to the supplier company for review. As such, the current legal status of the publications in this Table is unknown (e.g., application, grant, lapsed, rejected). According to the Merck Index, there may be patent protection on the compound (see WO9411026 and US5736137).

PROGESTERONE VAGINAL RING (ACTAVIS)*

| Country | Application Number | Application Date | Expiration | Publication Number | Publication Date |
|-------------|--------------------|------------------|------------|--------------------|------------------|
| Brazil | BR1100186A | 1997-03-21 | 2017-03-21 | BR1100186A3 | 1998-04-14 |
| Brazil | BR19947475A | 1994-09-13 | 2014-09-13 | BR199407475A | 1996-11-12 |
| Colombia | CO199441745A | 1994-09-15 | 2014-09-15 | CO4290332A1 | 1996-04-17 |
| EPO | EP1999972096A | 1999-11-17 | 2019-11-17 | EP1131052A1 | 2001-09-12 |
| | EP1999972096A | 1999-11-17 | 2019-11-17 | EP1131052A4 | 2009-04-01 |
| | EP1999972096A | 1999-11-17 | 2019-11-17 | EP1131052B1 | 2012-07-11 |
| | EP2011166346A | 1999-11-17 | 2019-11-17 | EP2386291A1 | 2011-11-16 |
| | EP1994928089A | 1994-09-13 | 2014-09-13 | EP719146A1 | 1996-07-03 |
| | EP1994928089A | 1994-09-13 | 2014-09-13 | EP719146B1 | 1998-12-23 |
| | EP1994928089A | 1994-09-13 | 2014-09-13 | EP719146D0 | 1996-05-28 |
| Hungary | HU1996669A | 1994-09-13 | 2014-09-13 | HU221583B | 2002-11-28 |
| | HU1996669A | 1994-09-13 | 2014-09-13 | HU221583B1 | 2002-11-28 |
| | HU1996669A | 1994-09-13 | 2014-09-13 | HU76824T | 1997-11-28 |
| Mexico | MX19947089A | 1994-09-14 | 2014-09-14 | MX199798B | 2000-11-27 |
| Morocco | MA23649A | 1994-09-14 | 2014-09-14 | MA23329A1 | 1995-04-01 |
| Peru | PE1994250745A | 1994-09-15 | 2014-09-15 | PE19950507A1 | 1996-01-19 |
| Philippines | PH199449001A | 1994-09-15 | 2014-09-15 | PH30813A | 1997-10-17 |

PROGESTERONE VAGINAL RING (ACTAVIS)* - Continued

| Country | Application Number | Application Date | Expiration | Publication Number | Publication Date |
|--------------|--------------------|------------------|------------|--------------------|------------------|
| Russia | RU1996108813A | 1994-09-13 | 2014-09-13 | RU2148393C1 | 2000-05-10 |
| South Africa | ZA19947073A | 1994-09-14 | 2014-09-14 | ZA199407073A | 1995-05-02 |
| WIPO | WO1994US10270A | 1994-09-13 | 2014-09-13 | WO1995007699A1 | 1995-03-23 |
| WIPO | WO1999IL619A | 1999-11-17 | 2019-11-17 | WO2000028970A1 | 2000-05-25 |

* This report has not been submitted to the supplier company for review. As such, the current legal status of the publications in this Table is unknown (e.g., application, grant, lapsed, rejected).

RITUXIMAB (ROCHE)*

| Country | Application Number | Application Date | Expiration | Publication Number | Publication Date |
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| Brazil | BR1100622A | 1997-05-13 | 2017-05-13 | BR1100622A3 | 2000-04-18 |
| | BR199913645A | 1999-08-11 | 2019-08-11 | BR199913645A | 2001-09-25 |
| | BR199915149A | 1999-11-09 | 2019-11-09 | BR199915149A | 2001-08-07 |
| Bulgaria | BG199599701A | 1995-06-05 | 2015-06-05 | BG62386B1 | 1999-10-29 |
| | BG199599701A | 1995-06-05 | 2015-06-05 | BG99701A | 1996-02-29 |
| China | CN200510062687A | 1999-08-11 | 2019-08-11 | CN100409898C | 2008-08-13 |
| | CN200510062686A | 1999-08-11 | 2019-08-11 | CN100531798C | 2009-08-26 |
| | CN200910151382A | 1999-08-11 | 2019-08-11 | CN101695574A | 2010-04-21 |
| | CN201010119440A | 2000-08-02 | 2020-08-02 | CN101829324A | 2010-09-15 |
| | CN1999811514A | 1999-08-11 | 2019-08-11 | CN1320044A | 2001-10-31 |
| | CN1999814330A | 1999-11-09 | 2019-11-09 | CN1330554A | 2002-01-09 |
| | CN2000811372A | 2000-08-02 | 2020-08-02 | CN1374870A | 2002-10-16 |
| | CN2000811372A | 2000-08-02 | 2020-08-02 | CN1374870B | 2012-01-25 |
| | CN200510062686A | 1999-08-11 | 2019-08-11 | CN1689644A | 2005-11-02 |
| | CN200510062687A | 1999-08-11 | 2019-08-11 | CN1689645A | 2005-11-02 |
| | CN200510062688A | 1999-08-11 | 2019-08-11 | CN1689646A | 2005-11-02 |
| EAPC | EA2001224A | 1999-08-11 | 2019-08-11 | EA4107B1 | 2003-12-25 |
| EPO | EP1999942074A | 1999-08-11 | 2019-08-11 | EP1112084A1 | 2001-07-04 |
| | EP1999942074A | 1999-08-11 | 2019-08-11 | EP1112084A4 | 2002-10-16 |
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| | EP1999958649A | 1999-11-09 | 2019-11-09 | EP1131096A1 | 2001-09-12 |
| | EP1999958649A | 1999-11-09 | 2019-11-09 | EP1131096A4 | 2002-03-20 |
| | EP1999958649A | 1999-11-09 | 2019-11-09 | EP1131096B1 | 2010-01-06 |
| | EP2000955249A | 2000-08-02 | 2020-08-02 | EP1227836A1 | 2002-08-07 |
| | EP2000955249A | 2000-08-02 | 2020-08-02 | EP1227836A4 | 2005-06-22 |
| | EP20085897A | 1999-08-11 | 2019-08-11 | EP1946775A2 | 2008-07-23 |
| | EP20085897A | 1999-08-11 | 2019-08-11 | EP1946775A3 | 2008-08-06 |
| | EP20085921A | 1999-08-11 | 2019-08-11 | EP1974747A1 | 2008-10-01 |
| | EP20085921A | 1999-08-11 | 2019-08-11 | EP1974747B1 | 2012-06-27 |
| | EP20109420A | 1999-08-11 | 2019-08-11 | EP2260866A1 | 2010-12-15 |
| | EP20109422A | 1999-08-11 | 2019-08-11 | EP2263693A1 | 2010-12-22 |
| | EP2010175810A | 2000-08-02 | 2020-08-02 | EP2264070A1 | 2010-12-22 |
| | EP20109419A | 1999-08-11 | 2019-08-11 | EP2275136A1 | 2011-01-19 |
| EP1998932747A | 1998-06-12 | 2018-06-12 | EP999853A1 | 2000-05-17 | |
| EP1998932747A | 1998-06-12 | 2018-06-12 | EP999853B1 | 2003-01-02 | |
| Georgia | GE2006AP9498A | 2006-07-07 | 2026-07-07 | GEP20074162B | 2007-07-10 |
| | GE2009AP11620A | 2010-01-06 | 2030-01-06 | GEPI20105119B | 2010-11-25 |
| Hungary | HU20013484A | 1999-08-11 | 2019-08-11 | HU200103484A2 | 2002-01-28 |
| | HU20013484A | 1999-08-11 | 2019-08-11 | HU228180B1 | 2013-01-28 |
| Malaysia | MY2000PI3637A | 2000-08-09 | 2020-08-09 | MY135982A | 2008-07-31 |
| | MY1999PI3434A | 1999-08-11 | 2019-08-11 | MY136203A | 2008-08-29 |
| Mexico | MX2001PA1530A | 2001-02-09 | 2021-02-09 | MX2001001530A | 2002-04-24 |
| | MX2001PA4649A | 2001-05-08 | 2021-05-08 | MX2001004649A | 2002-05-06 |
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| | MX20014649A | 2001-05-08 | 2021-05-08 | MX274364B | 2010-03-05 |
| | MX20021333A | 2002-02-07 | 2022-02-07 | MX304904B | 2012-11-06 |
| Philippines | PH19992038A | 1999-08-11 | 2019-08-11 | PH199902038B1 | 2010-08-27 |
| | PH19992786A | 1999-11-08 | 2019-11-08 | PH199902786B1 | 2010-09-20 |
| | PH20002137A | 2000-08-10 | 2020-08-10 | PH1200002137B1 | 2013-03-25 |
| | PH200653A | 2006-01-25 | 2026-01-25 | PH1200600053B1 | 2013-04-30 |
| | PH200654A | 2006-01-25 | 2026-01-25 | PH1200600054B1 | 2013-04-30 |
| | PH200655A | 2006-01-25 | 2026-01-25 | PH1200600055B1 | 2013-04-30 |

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| Country | Application Number | Application Date | Expiration | Publication Number | Publication Date |
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| Philippines | PH2009295A | 2009-09-10 | 2029-09-10 | PH1200900295B1 | 2014-04-30 |
| South Africa | ZA20011157A | 2001-02-09 | 2021-02-09 | ZA200101157A | 2002-07-10 |
| | ZA20013716A | 2001-05-08 | 2021-05-08 | ZA200103716A | 2002-08-08 |
| Turkey | TR20011302T | 1999-11-09 | 2019-11-09 | TR200101302T2 | 2001-10-22 |
| WIPO | WO1998US12209A | 1998-06-12 | 2018-06-12 | WO1998056418A1 | 1998-12-17 |
| | WO1999US18120A | 1999-08-11 | 2019-08-11 | WO2000009160A1 | 2000-02-24 |
| | WO1999US24012A | 1999-11-09 | 2019-11-09 | WO2000027433A1 | 2000-05-18 |
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| Country | Application Number | Application Date | Expiration | Publication Number | Publication Date |
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| Argentina | AR2005100341A | 2005-01-28 | 2025-01-28 | AR47793A1 | 2006-02-22 |
| | AR2005100340A | 2005-01-28 | 2025-01-28 | AR48401A1 | 2006-04-26 |
| | AR2006103304A | 2006-07-28 | 2026-07-28 | AR55359A1 | 2007-08-22 |
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| ARIPO | AP20084301A | 2006-07-28 | 2026-07-28 | AP2406A | 2012-05-02 |
| Brazil | BR20056945A | 2005-01-28 | 2025-01-28 | BR200506945A | 2007-06-12 |
| | BR20056948A | 2005-01-28 | 2025-01-28 | BR200506948A | 2007-06-12 |
| | BR200614654A | 2006-07-28 | 2026-07-28 | BRPI0614654A2 | 2011-04-12 |
| | BRPI806945A | 2008-02-01 | 2028-02-01 | BRPI0806945A2 | 2014-05-06 |
| Chile | CL2008321A | 2008-02-01 | 2028-02-01 | CL2008000321A1 | 2008-08-22 |
| China | CN200680026950A | 2006-07-28 | 2026-07-28 | CN101228169A | 2008-07-23 |
| | CN200680026950A | 2006-07-28 | 2026-07-28 | CN101228169B | 2013-03-13 |
| | CN200880003060A | 2008-02-01 | 2028-02-01 | CN101589040A | 2009-11-25 |
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| | CN201210389139A | 2006-07-28 | 2026-07-28 | CN103030636A | 2013-04-10 |
| | CN201410412076A | 2008-02-01 | 2028-02-01 | CN104230918A | 2014-12-24 |
| | CN200580003410A | 2005-01-28 | 2025-01-28 | CN1914224A | 2007-02-14 |
| | CN200580003410A | 2005-01-28 | 2025-01-28 | CN1914224B | 2014-01-29 |
| | CN200580003423A | 2005-01-28 | 2025-01-28 | CN1914225A | 2007-02-14 |
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| Costa Rica | CR20068539A | 2006-07-28 | 2026-07-28 | CR8539A | 2009-02-23 |
| | CR20068540A | 2006-07-28 | 2026-07-28 | CR8540A | 2009-01-16 |
| | CR20089783A | 2008-02-29 | 2028-02-29 | CR9783A | 2008-09-09 |
| EAPC | EA20061399A | 2005-01-28 | 2025-01-28 | EA12410B1 | 2009-10-30 |
| | EA20061400A | 2005-01-28 | 2025-01-28 | EA14584B1 | 2010-12-30 |
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| | EA20061399A | 2005-01-28 | 2025-01-28 | EA200601399A1 | 2006-12-29 |
| | EA20061400A | 2005-01-28 | 2025-01-28 | EA200601400A1 | 2007-02-27 |
| | EA2008476A | 2006-07-28 | 2026-07-28 | EA200800476A1 | 2008-08-29 |
| Ecuador | EC2006SP6725A | 2006-07-24 | 2026-07-24 | EC2006SP6725A | 2006-12-29 |
| | EC2006SP6726A | 2006-07-24 | 2026-07-24 | EC2006SP6726A | 2006-12-29 |
| | EC2008SP8150A | 2008-01-28 | 2028-01-28 | EC2008SP8150A | 2008-02-20 |
| El Salvador | SV20062642A | 2006-07-29 | 2026-07-29 | SV2008002642A | 2008-08-29 |
| EPO | EP2005704764A | 2005-01-28 | 2025-01-28 | EP1713822A2 | 2006-10-25 |
| | EP2005704764A | 2005-01-28 | 2025-01-28 | EP1713822B1 | 2010-03-17 |
| | EP2005704765A | 2005-01-28 | 2025-01-28 | EP1713823A2 | 2006-10-25 |
| | EP2005704765A | 2005-01-28 | 2025-01-28 | EP1713823B1 | 2009-11-11 |
| | EP2006778071A | 2006-07-28 | 2026-07-28 | EP1912999A1 | 2008-04-23 |
| | EP2006778071A | 2006-07-28 | 2026-07-28 | EP1912999B1 | 2011-01-05 |
| | EP2008708575A | 2008-02-01 | 2028-02-01 | EP2118098A2 | 2009-11-18 |
| | EP2008708575A | 2008-02-01 | 2028-02-01 | EP2118098B1 | 2014-09-24 |
| | EP2010187197A | 2006-07-28 | 2026-07-28 | EP2322516A1 | 2011-05-18 |
| Guatemala | GT20060339A | 2006-07-28 | 2026-07-28 | GT200600339A | 2007-09-05 |
| Honduras | HN2008134A | 2008-01-28 | 2028-01-28 | HN2008000134A | 2010-11-03 |
| India | IN2006DN3860A | 2006-07-05 | 2026-07-05 | IN200603860P1 | 2007-07-13 |
| | IN2007DN10158A | 2007-12-28 | 2027-12-28 | IN200710158P1 | 2008-06-20 |
| | IN2009MN1610A | 2009-08-27 | 2029-08-27 | IN200901610P3 | 2009-12-04 |
| | IN2012DN6216A | 2012-07-13 | 2032-07-13 | IN201206216P1 | 2013-12-20 |
| India | IN2012DN6217A | 2012-07-13 | 2032-07-13 | IN201206217P1 | 2013-12-20 |
| Malaysia | MY2006PI3669A | 2006-07-28 | 2026-07-28 | MY144217A | 2011-08-15 |

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| Country | Application Number | Application Date | Expiration | Publication Number | Publication Date |
|--------------|--------------------|------------------|------------|--------------------|------------------|
| | MY2005PI347A | 2005-01-28 | 2025-01-28 | MY146349A | 2012-08-15 |
| | MY2005PI349A | 2005-01-28 | 2025-01-28 | MY153011A | 2014-12-31 |
| Mexico | MX20068530A | 2006-07-28 | 2026-07-28 | MX2006008530A | 2006-11-01 |
| | MX20081404A | 2008-01-28 | 2028-01-28 | MX2008001404A | 2008-06-30 |
| | MX20098275A | 2009-07-31 | 2029-07-31 | MX2009008275A | 2009-08-12 |
| | MX20068530A | 2006-07-28 | 2026-07-28 | MX270111B | 2009-09-14 |
| | MX20081404A | 2008-01-28 | 2028-01-28 | MX284777B | 2011-03-14 |
| | MX20098275A | 2009-07-31 | 2029-07-31 | MX301070B | 2012-07-06 |
| Peru | PE2006910A | 2006-07-26 | 2026-07-26 | PE20070211A1 | 2007-05-12 |
| Philippines | PH2008500011A | 2008-01-02 | 2028-01-02 | PH12008500011B1 | 2011-06-13 |
| Russia | RU2009132660A | 2008-02-01 | 2028-02-01 | RU2009132660A | 2011-03-10 |
| | RU2009132660A | 2008-02-01 | 2028-02-01 | RU2533830C2 | 2014-11-20 |
| Serbia | RS2010P36A | 2005-01-28 | 2025-01-28 | RS51243B | 2010-12-31 |
| | RS2011P145A | 2006-07-28 | 2026-07-28 | RS51743B | 2011-10-31 |
| South Africa | ZA20067214A | 2006-08-29 | 2026-08-29 | ZA200607214A | 2008-04-30 |
| | ZA20067215A | 2006-08-29 | 2026-08-29 | ZA200607215A | 2008-05-28 |
| | ZA2008857A | 2008-01-28 | 2028-01-28 | ZA200800857A | 2014-07-30 |
| | ZA20095377A | 2009-07-31 | 2029-07-31 | ZA200905377A | 2010-10-27 |
| Ukraine | UA20068624A | 2005-01-28 | 2025-01-28 | UA84050C2 | 2008-09-10 |
| | UA20068686A | 2005-01-28 | 2025-01-28 | UA84189C2 | 2008-09-25 |
| | UA2008828A | 2006-07-28 | 2026-07-28 | UA95245C2 | 2011-07-25 |
| Uruguay | UY200629703A | 2006-07-28 | 2026-07-28 | UY29703A1 | 2007-05-31 |
| Vietnam | VN20072689A | 2006-07-28 | 2026-07-28 | VN10011211B | 2013-04-25 |
| WIPO | WO2005SE97A | 2005-01-28 | 2025-01-28 | WO2005073195A2 | 2005-08-11 |
| | WO2005SE97A | 2005-01-28 | 2025-01-28 | WO2005073195A3 | 2005-09-29 |
| | WO2005SE96A | 2005-01-28 | 2025-01-28 | WO2005073216A2 | 2005-08-11 |
| | WO2005SE96A | 2005-01-28 | 2025-01-28 | WO2005073216A3 | 2005-10-06 |
| | WO2006EP64820A | 2006-07-28 | 2026-07-28 | WO2007014926A1 | 2007-02-08 |
| | WO2008EP51268A | 2008-02-01 | 2028-02-01 | WO2008092954A2 | 2008-08-07 |
| | WO2008EP51268A | 2008-02-01 | 2028-02-01 | WO2008092954A3 | 2008-10-02 |
| | WO2008EP51268A | 2008-02-01 | 2028-02-01 | WO2008092954A8 | 2009-12-23 |

* This report has not been submitted to the supplier company for review. As such, the current legal status of the publications in this Table is unknown (e.g., application, grant, lapsed, rejected). According to the Merck Index, there may be patent protection on the compound (see WO2008092954 and EP2118098).

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| Country | Application Number | Application Date | Expiration | Publication Number | Publication Date |
|------------|--------------------|------------------|------------|--------------------|------------------|
| Argentina | ARP20080101286A | 2008-03-28 | 2028-03-28 | AR66898A1 | 2009-09-23 |
| | ARP20110101095A | 2011-03-31 | 2031-03-31 | AR80819A1 | 2012-05-09 |
| | ARP20110101096A | 2011-03-31 | 2031-03-31 | AR80870A1 | 2012-05-16 |
| | ARP20110101097A | 2011-03-31 | 2031-03-31 | AR81813A1 | 2012-10-24 |
| | ARP20100101753A | 2010-05-20 | 2030-05-20 | AR82937A1 | 2013-01-23 |
| | ARP20120104057A | 2012-10-30 | 2032-10-30 | AR88580A1 | 2014-06-18 |
| | ARP20120104483A | 2012-11-29 | 2032-11-29 | AR89578A1 | 2014-09-03 |
| ARIPO | AP20126535A | 2011-03-31 | 2031-03-31 | AP201206535D0 | 2012-10-31 |
| | AP20126543A | 2011-03-31 | 2031-03-31 | AP201206543D0 | 2012-10-31 |
| | AP20147575A | 2012-09-14 | 2032-09-14 | AP201407575D0 | 2012-04-30 |
| | AP20147699A | 2012-11-27 | 2032-11-27 | AP201407699D0 | 2014-06-30 |
| Chile | CL2008902A | 2008-03-28 | 2028-03-28 | CL2008000902A1 | 2008-11-07 |
| China | CN200880018024A | 2008-03-26 | 2028-03-26 | CN101918425A | 2010-12-15 |
| | CN201080032541A | 2010-05-20 | 2030-05-20 | CN102459299A | 2012-05-16 |
| | CN201180017181A | 2011-03-31 | 2031-03-31 | CN102858790A | 2013-01-02 |
| | CN201180023066A | 2011-03-31 | 2031-03-31 | CN102906102A | 2013-01-30 |
| | CN201410247228A | 2011-03-31 | 2031-03-31 | CN104017020A | 2014-09-03 |
| | CN201280058114A | 2012-11-27 | 2032-11-27 | CN104039319A | 2014-09-10 |
| Colombia | CO2009120744A | 2009-10-27 | 2029-10-27 | CO6260023A2 | 2011-03-22 |
| | CO2011158583A | 2011-11-21 | 2031-11-21 | CO6470789A2 | 2012-06-29 |
| | CO2012195599A | 2012-10-30 | 2032-10-30 | CO6630166A2 | 2013-03-01 |
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| | CO2014121393A | 2014-06-05 | 2034-06-05 | CO6970603A2 | 2014-06-13 |
| Costa Rica | CR201220120532A | 2012-10-18 | 2032-10-18 | CR20120532A | 2013-02-05 |
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| Country | Application Number | Application Date | Expiration | Publication Number | Publication Date |
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| EAPC | EA201171417A | 2010-05-20 | 2030-05-20 | EA201171417A1 | 2012-05-30 |
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| | EA201290993A | 2011-03-31 | 2031-03-31 | EA201290993A1 | 2013-04-30 |
| EPO | EP2008732818A | 2008-03-26 | 2028-03-26 | EP2203462A2 | 2010-07-07 |
| | EP2008732818A | 2008-03-26 | 2028-03-26 | EP2203462B1 | 2014-05-21 |
| | EP2010721225A | 2010-05-20 | 2030-05-20 | EP2432792A1 | 2012-03-28 |
| | EP2011714465A | 2011-03-31 | 2031-03-31 | EP2552930A2 | 2013-02-06 |
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| | EP2011714466A | 2011-03-31 | 2031-03-31 | EP2552931B1 | 2014-07-23 |
| | EP2011714467A | 2011-03-31 | 2031-03-31 | EP2552933A1 | 2013-02-06 |
| | EP2013159791A | 2011-03-31 | 2031-03-31 | EP2609923A2 | 2013-07-03 |
| | EP2013159791A | 2011-03-31 | 2031-03-31 | EP2609923A3 | 2014-07-30 |
| | EP2013159903A | 2010-05-20 | 2030-05-20 | EP2610264A2 | 2013-07-03 |
| | EP2013159903A | 2010-05-20 | 2030-05-20 | EP2610264A3 | 2014-01-22 |
| | EP2012768967A | 2012-09-14 | 2032-09-14 | EP2709613A2 | 2014-03-26 |
| | EP2014163247A | 2011-03-31 | 2031-03-31 | EP2752422A1 | 2014-07-09 |
| | EP2012787261A | 2012-10-26 | 2032-10-26 | EP2776024A1 | 2014-09-17 |
| | EP2012795307A | 2012-11-27 | 2032-11-27 | EP2785340A1 | 2014-10-08 |
| | EP2014151876A | 2008-03-26 | 2028-03-26 | EP2792680A1 | 2014-10-22 |
| | EP2014169060A | 2008-03-26 | 2028-03-26 | EP2801580A1 | 2014-11-12 |
| India | IN2009KN3658A | 2009-10-20 | 2029-10-20 | IN200903658P2 | 2010-03-19 |
| Indonesia | ID2012W4457A | 2012-10-31 | 2032-10-31 | ID201301341A | 2013-04-25 |
| Malaysia | MY2009PI4079A | 2008-03-26 | 2028-03-26 | MY147409A | 2012-11-30 |
| Mexico | MX200910401A | 2009-09-28 | 2029-09-28 | MX2009010401A | 2009-11-10 |
| | MX201112417A | 2011-11-18 | 2031-11-18 | MX2011012417A | 2012-01-25 |
| | MX201211171A | 2012-09-26 | 2032-09-26 | MX2012011171A | 2013-02-01 |
| | MX201211324A | 2012-09-28 | 2032-09-28 | MX2012011324A | 2013-02-21 |
| | MX20143145A | 2014-03-14 | 2034-03-14 | MX2014003145A | 2014-04-30 |
| | MX20146373A | 2014-05-27 | 2034-05-27 | MX2014006373A | 2014-07-22 |
| | MX200910401A | 2009-09-28 | 2029-09-28 | MX296818B | 2012-03-06 |
| | MX201112417A | 2011-11-18 | 2031-11-18 | MX320108B | 2014-05-13 |
| Moldova | MD201435A | 2012-09-14 | 2032-09-14 | MD20140035A2 | 2014-08-31 |
| | MD201458A | 2012-11-27 | 2032-11-27 | MD20140058A2 | 2014-11-30 |
| Peru | PE20121822A | 2011-03-31 | 2031-03-31 | PE20130151A1 | 2013-02-21 |
| | PE20121750A | 2011-03-31 | 2031-03-31 | PE20130183A1 | 2013-02-21 |
| | PE2014360A | 2012-09-14 | 2032-09-14 | PE20141056A1 | 2014-09-05 |
| | PE2014749A | 2012-11-27 | 2032-11-27 | PE20141296A1 | 2014-10-08 |
| Philippines | PH2009501847A | 2008-03-26 | 2028-03-26 | PH12009501847A | 2008-10-09 |
| Russia | RU2009139968A | 2008-03-26 | 2028-03-26 | RU2009139968A | 2011-05-10 |
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This Report was prepared by Reed F Beall & Amir Attaran, University of Ottawa, Canada (reedbeall@gmail.com and amir@amirattaran.com). A companion Global Challenges Brief titled Patents and the WHO Model List of Essential Medicines (18th Edition): Clarifying the Debate on IP and Access by Reed F Beall is published separately (visit www.wipo.int/globalchallenges) and provides an overview of issues, including key implications and considerations for policy and policymakers.

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Citation: Beall RF & A Attaran. 2016. Patent-based analysis of the World Health Organization's 2013 Model List of Essential Medicines. Global Challenges Report, WIPO: Geneva. www.wipo.int/globalchallenges

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