

**MEMORANDUM OF UNDERSTANDING
BETWEEN THE MEDICINE PATENT POOL FOUNDATION
AND OTSUKA NOVEL PRODUCTS GMBH**

This Memorandum of Understanding ("MOU") is made as of October 09, 2017 (the "Effective Date") by and between the Medicines Patent Pool Foundation ("MPP"), a not-for-profit foundation organized under the laws of Switzerland, whose business headquarters is located at Rue de Varembe 7, Geneva 1202, Switzerland, and Otsuka Novel Products GmbH ("Otsuka"), a German limited liability company, registered with the commercial register of local court Munich under registration number HRB 190185 with a principal address at Erika-Mann-Str. 21, 80636 Munich, Germany. Otsuka and MPP are collectively referred to as the "Parties" and individually as a "Party".

Background:

Tuberculosis ("TB") is the world's leading cause of death from infectious disease, despite being preventable and curable. The majority of the anti-TB medicines have been used for decades, and *M. tuberculosis* strains resistant to one or more of these medicines have emerged. The field of drug-resistant TB is characterized by low treatment penetration, low cure rates, slow uptake of promising new drugs and regimens and relatively high cost of treatments. In particular, the treatment of multidrug-resistant tuberculosis (MDR- TB) for children remains a significant challenge. In addition to the obstacles faced with MDR-TB treatment in adults, currently recommended second-line anti-TB medications pose a risk profile that fundamentally alters childhood development. Not only is there an urgent need for the timely introduction of new MDR-TB medicines as affordable, child-friendly formulations, but also to ensure that core second-line medicines recommended by the World Health Organization will be available as quality-assured paediatric formulations. The problem is further complicated by the fact that the number of children with MDR-TB is relatively small and fragmented: among the 580,000 new MDR-TB cases worldwide in 2015, approximately only 30,000 are children, less than 1% were likely on treatment, and less than 1000 patients have treatment outcomes evaluated.^{1 2 3}

MPP is a non-profit organization with a mission to improve the health of people living in low- and middle-income countries by increasing access to quality, safe, efficacious and

¹ •Dodd PJ, Sismanidis C, Seddon JA. The global burden of drug-resistant tuberculosis in children: a mathematical model. *Lancet Infect Dis.* 2016;16(10):1193-201.

² Jenkins HE, Tolman AW, Yuen CM, et al. Incidence of multidrug-resistant tuberculosis disease in children: systematic review and global estimates, *Lancet.* 2014;383(9928):1572-9. doi: 10.1016/S0140-6736(14)60195-1.

³ World Health Organization. WHO treatment guidelines for drug-resistant tuberculosis - 2016 update. Geneva, Switzerland. WHO/HTM/TB/2016.04



affordable HIV, HCV and TB medicines by facilitating access to intellectual property to allow for the rapid development and manufacturing of these medicines.

Otsuka is a research-based pharmaceutical company that among other activities, develops and commercializes medicines and other technologies for TB, and is interested to support initiatives to provide access to its innovations in TB to patients who need them.

Delamanid (Delyba¹), a novel, patented drug developed and owned by Otsuka for MDR-TB has recently been included on the World Health Organisation's (WHO) Essential Medicines List (EML) and the WHO EML for Children in June 2017, indicating that it is a priority medication for children infected with MDR-TB.

MPP and Otsuka wish to collaborate with the goal of improving global access to pediatric MDR-TB, by accelerating the development, manufacturing and access to appropriate, affordable, quality pediatric formulations containing delamanid, including potential fixed dose combinations, as recommended by WHO or other key agencies such as US DHHS, South African MRC, etc. for treatment of childhood MDR-TB (the "Target Products").

To that end, the Parties have agreed upon a framework of collaboration (the "Collaboration") as follows:

1. Description of the Collaboration.

1.1 The Parties wish to ensure the development, registration, distribution, and uptake of Target Products through this Collaboration. In order to achieve this objective, the Parties agree to:

1.1.1 Engage with potential funders to finance the development of Target Products for affordable supply to children in need of treatment for MDR-TB ("Target Population");

1.1.2 At an appropriate time, by mutual agreement, enter into license agreement(s) needed to facilitate the development, commercialization and availability of Target Products in the Target Population;

1.1.2.1 The Parties acknowledge that in face of a small and highly fragmented market, it remains a challenge not only to develop pediatric formulations of MDR-TB medicines but also to ensure such formulations reach the children in need in an affordable and sustainable manner. For this reason, the Parties will negotiate in good faith for a territorial coverage serving as many countries with MDR-TB burden as possible, ideally globally;

1.1.3 Support the development and regulatory approval of Target Products working closely with one or more manufacturer(s);

1.1.4 Support the work of relevant and interested public health stakeholders with appropriate information to facilitate use and uptake of Target Products in the Target Population;



1.2 Responsibilities of the Parties

1.2.1 Responsibilities of MPP

- 1.2.1.1 Collaborate with Otsuka to develop a landscape assessment for the Target Products, including a market analysis and description of several supply, financing, and pricing options;
- 1.2.1.2 Engage with relevant experts and public health stakeholders to identify key barriers to access for pediatric MDR-TB formulations including novel compounds such as delamanid;
- 1.2.1.3 Collaborate with Otsuka on engaging with potential funders to finance the development of Target Products by qualified third party manufacturers, including financing for activities required following stringent regulatory authority approval by Otsuka that are critical for providing access to the paediatric formulation;
- 1.2.1.4 Engage with experts and public health stakeholders such as the WHO to identify appropriate delamanid containing pediatric formulations;
- 1.2.1.5 As and when appropriate, enter into a license agreement with Otsuka for delamanid to and into sub-license(s) with manufacturer(s) to enable development of Target Products;
- 1.2.1.6 In case of license arrangement with Otsuka, identify and engage with appropriate manufacturers to develop, file for approval and distribute Target Products;
- 1.2.1.7 In case of license arrangement with Otsuka, facilitate development of Target Products by manufacturer(s), with technical support from Otsuka, in a manner consistent with requirements of WHO Prequalification of Medicines Programme ("WHO PQ") and/or a Stringent Regulatory Authority defined as regulatory authorities that are members, observers or associates of the International Conference on Harmonization of Technical Requirements for Registration of Pharmaceuticals for Human Use ("SRA"), and key national drug regulators including, but not limited to the European EMA, Japan PMDA and US FDA;
- 1.2.1.8 Facilitate and support uptake and use of Target Products in the Target Population by making available appropriate information relating to product availability, timelines, expected costing, and relevant technical/scientific information to appropriate public health stakeholders.

1.2.2 Responsibilities of Otsuka

- 1.2.2.1 Collaborate with MPP on engaging with potential funders to finance the development and the manufacturing of Target Products;
- 1.2.2.2 Support MPP, especially with necessary information that Otsuka may possess and that is reasonably useful, in engaging with relevant experts and public health stakeholders to identify key barriers to access for pediatric MDR-TB formulations including novel compounds such as delamanid;



- 1.2.2.3 As and when appropriate, license delamanid to MPP for further sub-licensing to manufacturer(s) to enable development of Target Products;
- 1.2.2.4 As and when appropriate, support the development of Target Products through appropriate technology transfer and technical support (details to be agreed in the license agreement);
- 1.2.2.5 As and when appropriate, support regulatory filings and approvals of licensee(s) through data exclusivity waivers and making available its clinical and/or regulatory data as requested by WHO PQ and/or national regulatory authorities.
- 1.2.2.6 Support MPP with information that is reasonably useful relating to availability, timelines, expected costing and relevant technical, clinical and scientific information that may facilitate decision by experts such as the WHO about usage and recommendations relating to pediatric delamanid.

1.3 Future Collaboration: The Parties will continue to explore possibilities to expand their collaboration in the field of MDR-TB to address wider unmet needs of patients in need of appropriate treatment.

2. Communications

- a. The Parties agree to work together on an initial press release announcing the collaboration upon signature of this MOU, and neither Party shall issue any such press release or make any such public statement without the prior consent of the other. For the avoidance of doubt, Otsuka is entitled but not obligated to issue its own press release.
- b. The Parties agree to work together in good faith on plans for other communications and stakeholder outreach as the need may be.
- c. On submission of a draft initial press release to a Party, the receiving Party shall endeavor to review and provide comments to the sending Party within ten (10) business days of receipt.
- d. Neither Party shall make use of the logo of the other Party without prior written permission from that other Party.
- e. After any initial press release or public announcement is made, each Party may disclose to third parties or make public statements, by press release or otherwise, regarding the existence of this MOU, the identity of the parties, and terms, conditions and subject matter of this MOU, provided such disclosures or statements are accurate and complete with respect to the subject matter thereof and the information disclosed therein.
- f. Otsuka acknowledges that this MOU, in accordance with MPP policy, will be made publicly available on MPP's website and by other appropriate means.

3. Confidentiality

Notwithstanding the terms and conditions of the Confidentiality Agreement dated 9 January 2017 between the Parties, the Parties agree that during the course of this MOU,



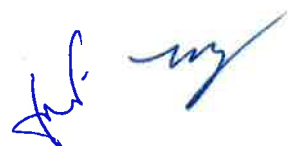
the Parties may make available to each other certain Confidential Information (as hereinafter defined) or one Party may otherwise learn of Confidential Information belonging to the other Party. For purposes of this Section, "**Confidential Information**" means any and all confidential or proprietary information regarding a Party or its business, including, without limitation, all products, patents, trademarks, copyrights, trade secrets, processes, techniques, scientific information, computer programs, databases, software, services, research, development, inventions, financial, purchasing, accounting, marketing, fundraising and other information, whenever conceived, originated, discovered or developed, concerning any aspect of its business, whether or not in written or tangible form; provided, however, that the term "Confidential Information" shall not include information (i) which is or becomes generally available to the public on a non-confidential basis, including from a third party provided that such third party is not in breach of an obligation of confidentiality with respect to such information, (ii) which was independently developed by a Party not otherwise in violation or breach of this MOU or any other obligation of one Party to the other, or (iii) which was rightfully known to a Party prior to entering into this MOU

- a. Each Party shall hold in strictest confidence any of the other Party's Confidential Information; and shall not distribute, disclose or convey Confidential Information to any third party and shall not make use of any Confidential Information for its own benefit or for the benefit of any third party. The foregoing to the contrary notwithstanding, the Parties shall not be in violation of this subsection in the event that a Party is legally compelled to disclose any of the Confidential Information.
- b. Any legally-binding documentation entered into by the Parties in relation to this MOU and the Collaboration shall contain relevant clauses relating to confidentiality of information.

The obligations of this Section 3 shall continue for a period of 5 years after the termination of this MOU.

4. Status of MOU

The Parties agree to be bound by the provisions of Sections 2(a), (c)-(f), 3 and 4 hereof and agree that the remaining Sections of this MOU are not intended to be legally binding, and only represent the non-binding framework for future discussions between the Parties in relation to the Collaboration. Therefore, the terms set out in this MOU are only an expression of the current intention of the Parties regarding the negotiation process of the proposed Collaboration contemplated by this MOU. This MOU does not create any obligation to conclude and sign a license agreement or any other agreement, i.e. either Party may at any time end discussions and negotiations and declare its withdrawal from the negotiations by means of written notice (including e-mail) to the other Party without having to give any reason or incurring any liability.



5. Term and Termination.


This MOU shall become effective on the Effective Date and continue for five (5) years. This MOU may be modified by mutual written consent of both Parties. This MOU may be terminated by either Party upon a sixty (60) day advance written notice to the other Party.

This MOU may be executed in any number of counterparts, and counterparts may be exchanged by electronic transmission (including by email), each of which shall be deemed an original and all of which together shall constitute one and the same instrument.

In WITNESS WHEREOF, the Parties have caused this MOU to be executed by their duly authorized representatives.

The Medicines Patent Pool Foundation

Otsuka Novel Products GmbH

By: 

Name: *GREG PERRY*
Title: *EXECUTIVE DIRECTOR.*

Date: *OCTOBER 5th 2017*

By: 

Name: Masuhiro Yoshitake
Title: Managing Director

Date: *October 5th, 2017*