This document is scheduled to be published in the
Federal Register on 08/07/2018 and available online at
https://federalregister.gov/d/2018-16836, and on **govinfo.gov**

[Billing Code 4140-01-P]

DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

Prospective Grant of Exclusive Patent License: Treatment of Type I Diabetes and its Comorbidities

AGENCY: National Institutes of Health, HHS.

ACTION: Notice.

SUMMARY: The National Heart, Lung and Blood Institute (NHLBI), National Institutes of Health, Department of Health and Human Services, is contemplating the grant of an exclusive patent License to Inversago Pharma, Inc., located in Montreal, Quebec, Canada, to practice the inventions embodied in the patent applications listed in the Supplementary Information section of this notice.

DATES: Only written comments and/or applications for a license which are received by the NHLBI Office of Technology Transfer and Development [INSERT DATE 15 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER] will be considered.

ADDRESSES: Requests for copies of the patent applications, inquiries, and comments relating to the contemplated exclusive patent license should be directed to: Michael Shmilovich, Esq.,

Senior Licensing and Patent Manager, 31 Center Drive Room 4A29, MSC2479, Bethesda, MD 20892-2479, phone number 301-435-5019, or shmilovm@mail.nih.gov.

SUPPLEMENTARY INFORMATION: The following and all continuing U.S. and foreign patents/patent applications thereof are the intellectual properties to be licensed under the prospective agreement to Inversago Pharma, Inc.:

HHS Reference Number	Patent Number or Application Number	Filing Date	Title
E-282-2012-0-US-01	61/725,949	November 13, 2012	Cannabinoid Receptor Mediating Compounds
E-282-2012-0-PCT-02	PCT/US2013/069686	November 12, 2013	Cannabinoid Receptor Mediating Compounds
E-282-2012-0-US-03	9,765,031	November 12, 2013	Cannabinoid Receptor Mediating Compounds
E-282-2012-0-CA-04	2889697	April 27, 2015	Cannabinoid Receptor Mediating Compounds
E-282-2012-0-EP-05	13802153.0	June 01, 2015	Cannabinoid Receptor Mediating Compounds
E-282-2012-0-IN-06	3733/DELNP/2015	May 1, 2015	Cannabinoid Receptor Mediating Compounds
E-282-2012-0-JP-07	2015-542015	May 11, 2015	Cannabinoid Receptor Mediating Compounds
E-282-2012-0-CN-08	201380069389.9	July 3, 2015	Cannabinoid Receptor Mediating Compounds
E-282-2012-0-US-09	15/674,365	August 10, 2017	Cannabinoid Receptor Mediating Compounds
E-282-2012-	15/674,333	August 10,	Cannabinoid Receptor

0-US-10		2017	Mediating Compounds
E-140-2014-0-US-01	61/991,333	May 9, 2014	Cannabinoid Receptor Mediating Compounds
E-282-2012-1-US-01	62/171,179	June 4, 2015	Cannabinoid Receptor Mediating Compounds
E-282-2012-1-PCT-02	PCT/US2016/035291	June 1, 2016	Cannabinoid Receptor Mediating Compounds
E-282-2012-1-EP-05	16728547.7	June 1, 2016	Cannabinoid Receptor Mediating Compounds
E-282-2012-1-US-08	15/579,123	December 1, 2017	Cannabinoid Receptor Mediating Compounds
E-140-2014-0-PCT-02	PCT/US2015/029946	May 8, 2015	Cannabinoid Receptor Mediating Compounds
E-140-2014-0-AU-03	2015255765	November 7, 2016	Cannabinoid Receptor Mediating Compounds
E-140-2014-0-CA-04	2948349	May 8, 2015	Cannabinoid Receptor Mediating Compounds
E-140-2014-0-EP-06	15728668.3	May 8, 2015	Cannabinoid Receptor Mediating Compounds
E-140-2014-0-CN-05	201580028788.X	May 8, 2015	Cannabinoid Receptor Mediating Compounds
E-140-2014-0-IN-07	201637038171	November 8, 2016	Cannabinoid Receptor Mediating Compounds

E-140-2014-0-JP-08	2017-511558	May 8, 2015	Cannabinoid Receptor Mediating Compounds
E-140-2014-0-US-09	15/309,728	November 8, 2016	Cannabinoid Receptor Mediating Compounds
E-140-2014-0-HK-10	17105705.6	June 9, 2017	Cannabinoid Receptor Mediating Compounds

The patent rights in these inventions have been assigned to the Government of the United States of America. The prospective exclusive patent license territory will be granted worldwide and in a field of use not broader than human therapeutics for type I diabetes and its comorbidities diabetic nephropathy, chronic kidney disease, diabetic retinopathy, and peripheral and autonomic neuropathy.

The invention covered by the patents and patent applications pertaining to HHS Ref. No. E-282-2012-0 pertain to cannabinoid receptor 1 (CN_1R) inverse agonists. CN_1R activation plays a key role in appetitive behavior and metabolism. Of importance as a therapeutic target here is that the receptor is expressed in both peripheral tissue as well as the central nervous system. The invention is a class of pyrazole compounds that act as CN1 receptor inverse agonists and have been shown effective at reducing obesity and its associated metabolic consequences while having no experimentally discernable neuropsychotropic side effects that are considered adverse such as the earlier antagonists rimonabant. These CN_1R receptor compounds were developed with the goals of limiting their brain penetrance without losing their metabolic efficacy due to CN1 inverse agonism, and having a primary metabolite directly targeting enzymes involved in

inflammatory and fibrotic processes associated with metabolic disorders. The patent rights cover both compositions of matter and methods of use.

The inventions covered by HHS Ref. E-140-2014-0 also pertain to pyrazole CN_1R receptor inverse agonists. In addition, some of these compounds also have a direct inhibitory effect on inducible nitric oxide synthase (iNOS), whereas another group of the compounds directly activates AMP kinase. There is evidence that the metabolic effects of endocannabinoids are mediated by CN1 receptors in peripheral tissues. These dual-target compounds may be useful for treating metabolic disease and related conditions such as obesity and diabetes and their complications, including liver or kidney fibrosis, without the dangerous the side effects.

This notice is made in accordance with 35 U.S.C. 209 and 37 CFR Part 404. The prospective exclusive patent license will be royalty bearing and may be granted unless within fifteen (15) days from the date of this published notice, the NHLBI receives written evidence and argument that establishes that the grant of the license would not be consistent with the requirements of 35 U.S.C. 209 and 37 CFR Part 404.

Complete applications for a license in the prospective field of use that are timely filed in response to this notice will be treated as objections to the grant of the contemplated exclusive patent license.

Comments and objections submitted to this notice will not be made available for public inspection and, to the extent permitted by law, will not be released under the *Freedom of Information Act*, 5 U.S.C. 552.

Dated: July 25, 2018.

Michael A. Shmilovich,

Senior Licensing and Patenting Manager,

National Heart, Lung, and Blood Institute,

Office of Technology Transfer and Development.

[FR Doc. 2018-16836 Filed: 8/6/2018 8:45 am; Publication Date: 8/7/2018]