04/15/2022 507234440

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
JOSEPH A BURLISON	04/11/2022
LEVI BEVERLY	04/13/2022
SARAH A ANDRES	04/05/2022
PAULA J BATES	04/08/2022
NAGARAJU MIRIYALA	04/07/2022

RECEIVING PARTY DATA

Name:	UNIVERSITY OF LOUISVILLE RESEARCH FOUNDATION, INC.
Street Address:	300 EAST MARKET STREET
Internal Address:	SUITE 300
City:	LOUISVILLE
State/Country:	KENTUCKY
Postal Code:	40202-1959

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16597027

CORRESPONDENCE DATA

Fax Number: (202)688-2790

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent

using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: 202-507-5889 Email: harry@arrigo.us

HARRY J. GUTTMAN **Correspondent Name:**

2200 PENNSYLVANIA AVE. NW Address Line 1:

Address Line 2: 4TH FLOOR EAST

Address Line 4: WASHINGTON, D.C. 20037

ATTORNEY DOCKET NUMBER:	19014-02; 35783.04134
NAME OF SUBMITTER:	HARRY J. GUTTMAN
SIGNATURE:	/Harry J Guttman/
DATE SIGNED:	04/15/2022

PATENT REEL: 059606 FRAME: 0475 507234440

Total Attachments: 11 source=19014-02 - Assignment - Fully Executed#page1.tif source=19014-02 - Assignment - Fully Executed#page2.tif source=19014-02 - Assignment - Fully Executed#page3.tif source=19014-02 - Assignment - Fully Executed#page4.tif source=19014-02 - Assignment - Fully Executed#page5.tif source=19014-02 - Assignment - Fully Executed#page6.tif source=19014-02 - Assignment - Fully Executed#page7.tif source=19014-02 - Assignment - Fully Executed#page8.tif source=19014-02 - Assignment - Fully Executed#page9.tif source=19014-02 - Assignment - Fully Executed#page10.tif source=19014-02 - Assignment - Fully Executed#page11.tif

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ASSIGNMENT AGREEMENT

University of Louisville Research Foundation, Inc., incorporated in the state of Kentucky, at the address of UofL Innovation & Commercialization, 300 East Market Street, Suite 300, Louisville, KY 40202 (referred to herein as "Assignee") and each undersigned inventor (referred to herein singly or collectively as "Assignor"), agree to This Agreement, as follows:

1.0 DEFINITIONS

1.01 "Application" means

- (a) the application of United States Patent Application No. 16/597,027 filed on October 9, 2019 titled "Methods for Treating Diseases" and with Reference No. 19014-02 (referred to herein as "the Specific Application").
- (b) any application filed in the United States Patent and Trade Office ("USPTO"), in a foreign jurisdiction (e.g., in the European Patent Office ("EPO") or in the Japanese Patent Office ("JPO")), China National Intellectual Property Administration ("CNIPA")), or under an international treaty (e.g., under the Patent Cooperation Treaty ("PCT")) encompassing one or more inventions disclosed in the 1.01(a);
- (c) any application filed in the U.S., in a foreign jurisdiction, or under an international treaty (e.g., under the PCT) encompassing one or more improvements of an application in 1.01(a) or 1.01(b) or one or more modifications of an application in 1.01(a) or 1.01(b);
- (d) any application filed in the U.S., in a foreign jurisdiction, or under an international treaty (e.g., under the PCT) from which an application in 1.01(a), 1.01(b), 1.01(c) directly or indirectly claims benefit under U.S. law (e.g., 35 U.S.C. §§ 119, 120, 121, 365), under foreign law, or under international law (e.g., the Paris Convention):
- (e) any application filed in the U.S., in a foreign jurisdiction, or under an international treaty that directly or indirectly claims benefit to an application in 1.01(a), 1.01(b), 1.01(c), or 1.01(d), under U.S. law (e.g., 35 U.S.C. §§ 119, 120, 121, 365), under foreign law, or under international law (e.g., the Paris Convention), including without limitation any continuation application, any divisional application, any continuation-in-part application, any reissue application (e.g., a broadening reissue application), and any nonprovisional application (e.g., a PCT application designating the U.S.);
- (f) The term "Application" includes but is not limited to any application for patent (e.g., application for design patent, utility patent, industrial design patent, utility model patent, patent for invention, innovation patent, and patent of addition) and any other right of exclusion and other form of protection for inventions (e.g., inventor's certificate).
- 1.02 "Patent" means all rights and privileges under any Letters Patent, patent, or certificate issued or published from any Application, including any reissue, any ex parte reexamination (including all certificates issuing or publishing therefrom), any inter partes reexamination (including all certificates issuing or publishing therefrom), any renewal, any extension, any patent resulting from any reexamination resulting from any supplemental examination (including all certificates issuing or publishing therefrom), any patent resulting from any covered business method patent review (including all certificates issuing or publishing therefrom), any patent resulting from any post grant review (including all certificates issuing or publishing therefrom), and any patent resulting from any inter partes review (including all certificates issuing or publishing therefrom).

1.03 Inventions

- (a) "Disclosed Invention" means any invention disclosed in any Application or in any Patent;
- (b) "Improvement Invention" means any improvement or modification of an invention disclosed in any Application or in any Patent, including any invention first disclosed in an Application or a Patent that is a continuation-in-part application; and
- (c) "Inventions" means both Disclosed Inventions and Improvement Inventions.

2.0 ASSIGNMENT

2.01 SPECIFIC APPLICATION

- (a) ASSIGNOR hereby assigns, transfers, and sets over to ASSIGNEE and ASSIGNEE's successors and assigns, ASSIGNOR's entire worldwide right, title, and interest in and to the SPECIFIC APPLICATION and all rights, if any, to sue for past infringement for the SPECIFIC APPLICATION and
- (b) ASSIGNOR hereby assigns, transfers, and sets over to ASSIGNEE and ASSIGNEE's successors and assigns, ASSIGNOR's right to claim priority to the SPECIFIC APPLICATION in all countries in accordance with the Paris Convention, the Patent Cooperation Treaty, or any other international agreement, regional agreement, or national law under which priority can be claimed, the same to be held and enjoyed by ASSIGNEE and ASSIGNEE's successors and assigns as fully and entirely as the same would have been held and enjoyed by ASSIGNOR if THIS AGREEMENT and sale had not been made.
- 2.02 ASSIGNOR hereby assigns, transfers, and sets over to ASSIGNEE and ASSIGNEE's successors and assigns, ASSIGNOR's entire worldwide right, title, and interest in and to APPLICATIONS, PATENTS, DISCLOSED INVENTIONS and all rights, if any, to sue for past infringement for any APPLICATION, any PATENT, and any DISCLOSED INVENTION.
- 2.03 ASSIGNOR hereby assigns, transfers, and sets over to ASSIGNEE and ASSIGNEE's successors and assigns, ASSIGNOR's entire worldwide right, title, and interest in and to IMPROVEMENT INVENTIONS and all rights, if any, to sue for past infringement for any IMPROVEMENT INVENTION.
- 2.04 ASSIGNOR hereby assigns, transfers, and sets over to ASSIGNEE and ASSIGNEE's successors and assigns, ASSIGNOR's right to claim priority to the APPLICATIONS in all countries in accordance with the Paris Convention, the Patent Cooperation Treaty, or any other international agreement, regional agreement, or national law under which priority can be claimed, the same to be held and enjoyed by ASSIGNEE and ASSIGNEE's successors and assigns as fully and entirely as the same would have been held and enjoyed by ASSIGNOR if THIS AGREEMENT and sale had not been made.

3.0 COOPERATION AND AUTHORIZATION

- 3.01 Assignor agrees, without charge to Assignee, but at Assignee's expense
 - (a) to execute all necessary papers (such as, but not limited to, declarations and disclaimers) to be used in connection with any Application (including but not limited to the Specific Application), as the Assignee or its successors and assigns may deem necessary or expedient;

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- (b) to execute all papers in connection with any interference action (at the USPTO or in a civil action), derivation proceeding (at the USPTO or in a civil action) or other legal or quasi-legal proceedings relating to any Application, Patent, or Invention in any venue (e.g., patent office or court) in the United States, any non-US national jurisdiction, any regional jurisdiction, and/or any international authority/organization, as the Assignee or its successors and assigns may deem necessary or expedient;
- (c) to cooperate with Assignee and its successors and assigns in every way possible in obtaining evidence (such as, but not limited to, performing experiments and providing facts and documents) and going forward in any such proceedings (at no expense to Assignor); and
- (d) to perform all other affirmative acts which may be necessary or desirable to obtain a grant of any Patent.
- 3.02 Assignor hereby authorizes and requests the Commissioner of Patents and Trademarks of the United States to issue and publish any patent or certificate within its jurisdiction that may be granted (a) upon any Application or (b) upon any procedure or any application that encompasses or is in connection with any Invention.
- 3.03 Assignor hereby authorizes the Assignee, its successors and assigns, to file in its own name, applications for patents under the patent laws of any jurisdiction (e.g., any country, any regional entity, such as the EPO, or any international entity) of the world in connection with or that encompasses any Invention, under the Paris Convention for the Protection of Industrial Property claiming the priority of any Application or otherwise; Assignor hereby authorizes the Assignee, its successors and assigns, to secure in its own name any patent issued or published thereon.
- 3.04 Assignor and Assignee hereby grant to the University of Louisville Research Foundation, Inc. and to the law firm of Arrigo, Lee, Guttman & Mouta-Bellum LLP authority and power to insert on This Agreement any further identification which may be necessary or desirable for purposes of recordation in the United States Patent and Trademark Office or any patent office of any non-US national jurisdiction, regional jurisdiction, and/or international patent issuing authority/organization.

4.0 ACKNOWLEDGEMENTS, COVENANTS, AND REPRESENTATIONS

- 4.01 Assignor acknowledges receipt of good and valuable consideration, as set forth in the University of Louisville's Intellectual Property Policy ("Payment"). Assignor acknowledges the receipt, sufficiency, and adequacy of the Payment in exchange for agreeing to the terms of This Agreement, including but not limited to assigning Specific Application, Applications, Patents, and Inventions to Assignee in section 2.0.
- 4.02 Assignor covenants and represents that, to the extent permitted by law, Assignor has the full right to convey the entire right, title, and interest described in This Agreement (e.g., the Specific Application, Disclosed Inventions, and, to the extent permitted by law,

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- Improvement Inventions) to Assignee, free of any encumbrances and that no other agreement has been or will be executed in conflict herewith.
- 4.03 Assignor acknowledges that Assignor has an obligation to or did previously assign, transfer and/or set over to Assignee all or a portion of the rights, titles and/or interests described in This Agreement (e.g., the Specific Application, Disclosed Inventions, and, to the extent permitted by law, Improvement Inventions), by means of one or more prior agreements including but not limited to an employee agreement, a student research agreement, an assignment agreement, a confidentiality agreement, a nondisclosure agreement, a research disclosure form, or an invention disclosure form. Should a conflict arise between a prior agreement and This Agreement, This Agreement shall control.

5.0 GENERAL PROVISIONS

- 5.01 This Agreement shall fulfill the purposes of a Deed of Assignment in jurisdictions requiring same.
- 5.02 This Agreement will be interpreted and construed, and the legal relations created herein will be determined, in accordance with the laws of the United States of America and the laws of the State of Kentucky (excluding conflicts of laws).
- 5.03 Should any part or provision of This Agreement be held unenforceable or in conflict with the law of any jurisdiction, the validity of the remaining parts or provisions will not be affected by such holding.
- 5.04 Headings (which are center justified, in all caps, and bold) used in This Agreement are intended for convenience and shall not be deemed to supersede or modify any provision.
- 5.05 This Agreement may be executed in any number of counterparts and by different parties in separate counterparts. Each counterpart when so executed shall be deemed to be an original and all of which together shall constitute one and the same instrument. The parties may execute this Agreement by facsimile, scanned Portable Document Format ("PDF"), DocuSign, or other electronically transmitted signature, and such facsimile, scanned PDF, DocuSigned, or other electronically transmitted document, including the signatures thereon, shall be treated in all respects as an original instrument bearing an original signature.

6.0 DECLARATION

6.01 ASSIGNOR hereby declares:

- (a) The SPECIFIC APPLICATION was made or authorized to be made by me.
- (b) I believe that I am the original inventor or an original joint inventor of a claimed invention in the SPECIFIC APPLICATION.
- (c) I have reviewed and understand the contents of the specification, including the claims, of the SPECIFIC APPLICATION.
- (d) I am aware of the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability of the SPECIFIC APPLICATION as defined in 37 C.F.R. § 1.56.
- (e) I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable under 18 U.S.C. § 1001 by fine or imprisonment of not more than five years or both, and that such willful false statements may jeopardize the validity of the SPECIFIC APPLICATION or any patent issued thereon.

[Signature Page Follows]

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[Signature Page Follows]

Assignor evidences This Agreement by execution as follows:
Signature of Inventor: Paula Bales
Date: Arcil 8th, 2022 (Please spell the name of the month)
Printed Name of Inventor:
Paula Bates
Address of Inventor:
5516 Hempstead Road Louisville, KY 40207
On this day of, 2022 before me, a Notary Public in and for the County of
TETTERSON and State of KENTUKY, appeared the above-named inventor, personally known to me, and acknowledged the execution of This Agreement as his/her free act and deed for the purpose herein set forth.
Signature of Notary:
Printed Name of Notary: JESSICA KrowiteS
JESSICA JANE KNOWLES Notary Public-State at Large My Commission expires on: KENTUCKY-Notary ID # KYNP17543 **ENTUCKY-Notary ID # KYNP17543************************************

Seal

Signature of Inventor:
Date: April 5, 2022 (Please spell the name of the month)
Printed Name of Inventor:
Sarah Andres
Address of Inventor:
3016 Chimneywood Drive Floyds Knobs, IN 47119
On this 5 TH day of APRIL , 2023 before me, a Notary Public in and for the County of
TETTERON and State of KENTUCKY, appeared the above-named inventor, personally known to me, and acknowledged the execution of This Agreement as his/her free act and deed for the purpose herein set forth.
Signature of Notary: Yesker furnish
Printed Name of Notary: FSICA KNOWUES
JESSICA JANE KNOWLES Notary Public-State at Large My Commission expires on: KENTUCKY Notary ID # KYNP17543 My Commission Expires 10-28-2024

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Signature of inventor: 419 184
Date: Arri 11, 2022 (Please spell the name of the month)
Printed Name of Inventor:
Joseph Burlison
Address of Inventor:
6404 Harrogate Rd. Louisiville, KY 40229
On this day ofAra, 2022, before me, a Notary Public in and for the County of
<u>JEFFERSON</u> and State of <u>INDICEY</u> , appeared the above-named inventor, personally known to me, and acknowledged the execution of This Agreement as his/her free act and deed for the purpose herein set forth.
Signature of Notary: \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\
Printed Name of Notary: JESSICA KNOWLES
JESSICA JANE KNOWLES My Commission expires on: KENTUCKY-Notary ID # KYNPT7643 My Commission Expires 10-28-2024
Page 8 of 11.
PATENT REEL: 059606 FRAME: 0

Signature of Inventor: _

Date: 4/14/2022 (Please spell the name of the month)
Printed Name of Inventor:
Levi Beverly
Address of Inventor:
9904 Winged Foot Ct Louisiville, KY 40223
On this day of APRIL, 2023, before me, a Notary Public in and for the County of
TETTERSON and State of KENTUCKY, appeared the above-named inventor, personally known to me, and acknowledged the execution of This Agreement as his/her free act and deed for the purpose herein set forth.
Signature of Notary: Jessica Notary: Jessica
Printed Name of Notary: Tessica Knewes
My Commission expires on: JESSICA JANE KNOWLES Notary Public-State at Large KENTUCKY - Notary ID 8 KYNP17643 My Commission Expires 10-28-2024

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Signature of Inventor: H. Nylin
Date: April, 7 ¹⁵ 2022 (Please spell the name of the month)
Printed Name of Inventor:
Nagaraju Miriyala
Address of Inventor:
741 E Madison St., Apt A Louisville, KY 40202
,
On this 7 nd day of APRIL , 2022, before me, a Notary Public in and for the County of
TETERS and State of Kensucky appeared the above-named inventor, personally known to me, and acknowledged the execution of This Agreement as his/her free act and deed for the purpose herein set forth.
Signature of Notary:
Printed Name of Notary: Jesica Kowwes
JESSICA JANE KNOWLES Notary Public-State at Large KENTUCKY - Notary ID # KYNP17543 My Commission expires on: My Commission expires on:

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Representative, as follows:
Signature of Duly Authorized Representative:
Date: April 14, 2022 (Please spell the name of the month)
Printed Name: Kevin H. Gardner, PhD
Title: Executive Vice President for Research and Innovation
w.m
On this 19 TH day of Apaic , 20 <u>72</u> before me, a Notary Public in and for the County of
and State of Kentucky appeared the above-named person, personally known to me, and acknowledged the execution of This Agreement as his/her free act and deed for the purpose herein set forth.
a de la 2 constantina
Signature of Notary: Signature of Notary:
Printed Name of Notary: JESSICA KNOWLES
My Commission expires on: October 28,2024
[Seal]

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