

MATERIALS TRANSFER AGREEMENT

Provider:

U.S. Environmental Protection Agency (EPA)

Office of Research and Development (ORD)

National Center for Computational Toxicology (NCCT)

Recipient:

Point of Contact for Submission Stéphane Corgié

Organization Zymtronix Catalytic Systems

Address 414A Weill Hall, Cornell University, Ithaca, NY 14853

1a. Provider agrees to transfer to Recipient's Investigator named below the following Research Material:

Chemicals and Materials

Five xenobiotic metabolism probe substrates (50uL of 500X stock solutions in DMSO). The substrates are:

- Terfenadine (CAS: # 50679-08-8),
- Phenacetin (CAS: # 62-44-2),
- Bupropion (CAS: # 34841-39-9),
- Chlorzoxazone (CAS: # 95-25-0), and
- 7-hydroxycoumarin (CAS: # 93-35-6).

Ten reference chemicals for cytotoxicity screening (50uL of 500X stock solutions in DMSO). The reference chemicals are:

- Benzo[a]pyrene (CAS #: 50-32-8),
- Aflatoxin B1 (CAS #: 1162-65-8),
- Cyclophosphamide monohydrate (CAS #: 6055-19-2),
- 2-naphthylamine (CAS #: 91-59-8),
- Acrylamide (CAS #: 79-06-1),
- 1,8-dinitropyrene (CAS #: 42397-65-9),
- doxorubicin hydrochloride (CAS #: 25316-40-9),
- 6-aminochrysene (CAS #: 2642-98-0),
- 8-methoxypsoralen (CAS #: 298-81-7), and
- 4-nitrophenol (CAS #: 100-02-7).

1b. The Recipient agrees to transfer to the EPA Investigator named below the following Research Material:

- All data or data summaries requested in the Transform Tox Testing Challenge Stage 2 Brief resulting from chemical screening performed on the probe substrates and reference chemicals.
- Samples for analytical testing by Federal Agency Sponsors of the Transform Tox Testing Challenges as described in the Stage 2 Challenge Brief.

2. This Research Material may not be used in human subjects. The Research Material will be used only for research purposes by Recipient's investigator in his/her laboratory, for the research project described below, under suitable containment conditions. This Research Material will not be used for screening, production or sale, for which a commercialization license may be required. Recipient agrees to comply with all Federal rules and regulations applicable to the Research Project and the handling of the Research Material.

3. If the data or material that are being transferred constitute human subjects research, please visit the following Intranet site to determine if your project needs review and approval by the HSRRO: <http://intranet.ord.epa.gov/p2/hsr/human-subjects-review>

Does the research involve specimens or data derived or collected from human subjects?

No

Yes – I am seeking review and approval from the HSRRO. Assurance Number _____

4. The Dual Use Research of Concern (DURC) Internal Review Entity (IRE) has determined that:

- This research does not meet the DURC definition and no additional review and oversight are required. The PI must report to the IRE any results or changes in the research such that one or more of the 7 categories of experimental effects may apply, or if the PI feels that the research may be DURC.
- This research meets the DURC definition and requires additional oversight under the *USG Policy for Institutional Oversight of DURC*. Corresponding USG funding agency will be notified and a draft of the mitigation plan will be submitted within 90 days of this determination.
- Mitigation Plan submitted to the funding agency on _____
- Approved mitigation Plan on file

5. This Research Material will be used by Recipient's investigator solely in connection with the Transform Tox Testing Challenge described with specificity as follows. *Please insert description here:*

Research Material from Provider will be used as metabolic enzyme substrates and internal standards for quantification of substrate depletion. Research Material will also be used for optimization of Zymtronix's magnetically immobilized metabolic enzymes. These activities will serve to validate the use of Zymtronix's technology combine with metabolic enzymes to provide metabolic competence to HST screening.

6. In all oral presentations or written publications concerning the Research Project, Recipient will acknowledge Provider's contribution of this Research Material unless requested otherwise. To the extent permitted by law, Recipient agrees to treat as confidential, any of Provider's written information about this Research Material that is stamped "CONFIDENTIAL" for a period of three (3) years from the date of its disclosure to recipient. The foregoing shall not apply to information that is or becomes publicly available or which is disclosed to Recipient without a confidentiality obligation. Any oral disclosures from Provider to Recipient, which Provider wishes to be treated as confidential shall be identified as being Confidential at the time of the disclosure and by written notice delivered to Recipient within thirty (30) days after the date of the oral disclosure. Recipient may publish or otherwise publicly disclose the results of the Research Project, but if Provider has given Confidential information to Recipient, such public disclosure may be made only after Provider has had thirty (30) days to review the proposed disclosure to determine if it includes any Confidential information, to the extent such review period is permitted by law.

7. This Research Material represents a significant investment on the part of Provider and is considered proprietary to Provider. Recipient's investigator therefore agrees to retain control over this Research Material and further agrees not to transfer the Research Material to other people not under his/her direct supervision without advance written approval of Provider. Provider reserves the right to distribute the Research Material to others and to use it for its own purposes. When the Research Project is completed, the Research Material will be returned to the Provider or disposed, if directed by Provider.

8. This Research Material is provided as a service to the research community. It is being supplied to Recipient with no warranties, express or implied, including any warranty of merchantability or fitness for a particular purpose. Provider makes no representations that the use of the Research Material will not infringe any patent or proprietary rights of third parties.

9. Recipient shall retain title to any patent or other Intellectual property rights in inventions made by its employees in the course of the Research Project. However, if said inventions contain any portion of the Research Material, are derived from the Research Material, or could not have been produced but for the use of the Research Material, Recipient agrees to contact the Provider to determine what ownership interests, if any, the Provider may have, and, where applicable, to negotiate in good faith the terms of a commercial license. Invention for a patent application or a commercialized product based on said inventions shall be determined according to United States patent law.

10. When Provider is the EPA: Recipient agrees not to claim, infer, or imply endorsement by the Government of the United States of America (hereinafter referred to as "Government") of the Research Project, the institution or personnel conducting the Research Project or any resulting product(s). Recipient agrees to hold the Government harmless and to indemnify the Government for all liabilities, demands, damages, expenses and losses arising out of Recipient's use for any purpose of the Research Material.

11. When Recipient is the EPA: Provider will not be liable to EPA for any claims or damages arising from EPA's use of the Research Material.

12. The Provider shall have the right to terminate this Agreement at any time if Recipient breaches any of the terms of this Agreement. Upon termination, Recipient shall return to the Provider all unused portions of the Research Materials.

13. Will EPA develop any products or services from information or materials provided by the Recipient?

Yes – go to item A

No – skip to #13 (next clause)

Item A: The EPA has a long history of applying principles of quality assurance/quality control to all technical work conducted by or for the Agency (CIO 2106: USEPA Quality Policy). Given EPA is receiving metabolomics and screening data and will use the metabolomics and screening data for Agency purposes, the Recipient is required to provide EPA with documentation such as a quality manual, describing their organization's quality system. In lieu of such documentation, Standard Operating Protocols for compound handling and the assays performed are acceptable or documentation showing third party accreditation to a relevant standard and scope is also acceptable for documenting an organization's quality system. EPA requirements for quality management plans can be found at this URL: http://www.epa.gov/quality/qa_docs.html

14. All notices pertaining to or required by this Agreement shall be in writing and shall be signed by an authorized representative and shall be delivered by hand (including private courier mail service) or sent by certified mail, return receipt requested, with postage prepaid, addressed as follows:

Provider's Contact Information:

Russell Thomas
National Center for Computational Toxicology (NCCT)
US EPA
109 TW Alexander (MD-D143-03)
Research Triangle Park, NC 27711
Tel: 919-541-5776
Thomas.russell@epa.gov

With a copy to:

Sandra Roberts
National Center for Computational Toxicology (NCCT)
US EPA
109 TW Alexander (MD-D143-03)
Research Triangle Park, NC 27711
919-541-3850
Roberts.sandra@epa.gov

For commercial courier address use:

4930 Old Page Rd.
Durham, NC 27703

AND

Sarah Bauer

EPA FTTA Program Coordinator

(Overnight courier address)

US EPA MC 8106R

Ronald Reagan building Room 71175

1300 Pennsylvania Ave NW

Washington, DC 20004

202-564-3267

Recipient's Contact Information:

Stéphane Corgé, PhD, CEO-CTO

Official's Name & Title

414A Weill Hall, Ithaca, NY 14853

Mailing Address

607-351-2639

Phone & Fax Number

s.corgie@zymtronix.com

Email address

With a copy to:

Rani Brooks, Biochemistry Lead

Official's Name & Title

414A Weill Hall, Ithaca, NY 14853

Mailing Address

571-437-6236

Phone & Fax Number

r.brooks@zymtronix.com

Email address

15. Paragraphs 2, 7, 9 and 10 shall survive termination.

16. This Agreement shall be construed in accordance with law as applied by the Federal courts in the District of Columbia.

17. The undersigned Provider and Recipient expressly certify and affirm that the contents of any statements made herein are truthful and accurate.

18. This agreement shall enter into force as of the date of the last signature of the parties and shall remain in effect for three years from said date.

Any false or misleading statements made, presented, or submitted to the Government, including any material omissions, under this Agreement and during the course of negotiation of this Agreement are subject to all applicable civil and criminal statutes including 31 U.S.C. '3801-3812 (civil liability), 18 U.S.C. '1001 (criminal liability), and 31 U.S.C. '3729-33 (False Claims Act).

SIGNATURES

FOR THE RECIPIENT:

Principal Investigator

[Redacted Signature]

October 4th 2014

Investigator's Name: Stephane Corgie

Date

Title: CEO-CTO

Email address: s.corgie@zymtronix.com

Authorized Representative of Institution

[Redacted Signature]

October 4th 2016

Representative's Name

Date

Title CEO - CTO

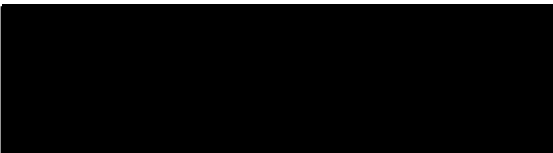
CERTIFICATION OF NO CONFLICT OF INTEREST (EPA ONLY)

I hereby certify that neither I nor any member of my immediate family will benefit in any material way from the execution or failure to execute the attached FTIA Cooperative Agreement or Licensing Agreement except to the extent of participation in royalty sharing as authorized by section 13 of the Stevenson-Wydler Technology Innovation Act, as amended by the Federal Technology Transfer Act of 1986 (15 U.S.C. 3710a et seq.).

I further certify that I have no knowledge of any such conflict by any other person who has participated in any material way in the initiation, design or development of the attached Agreement or who will participate in carrying it out.

FOR THE PROVIDER:

Principal Investigator



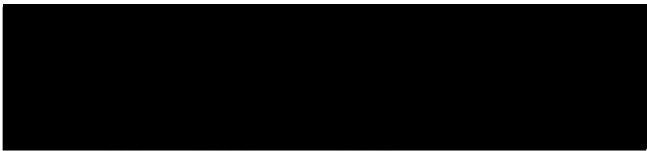
Steven O. Simmons

steven.simmons@epa.gov

10/17/2016

Date

Authorized Representative of Institution



Russell S. Thomas, Ph.D.

Director, EPA/ORD/NCCT

17 OCT 16

Date