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**AMENDMENT NO. 2**  
**COOPERATIVE RESEARCH AND DEVELOPMENT AGREEMENT**  
**BETWEEN**  
**L'ORÉAL**  
**AND**  
**THE NATIONAL CENTER FOR COMPUTATIONAL TOXICOLOGY**  
**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

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This "Amendment No. 2" is entered into by and between L'ORÉAL, a French Corporation which has its principal place of business at 14 rue Royale, 75008 PARIS, FRANCE ("the Cooperator"), and the National Center for Computational Toxicology ("the Center") of the U.S. Environmental Protection Agency ("EPA") under the authority of Title 15, United States Code ' 3710a, et seq. (commonly known as the Federal Technology Transfer Act of 1986).

**WITNESSETH:**

- A. **WHEREAS**, the Cooperator and the Center executed a Cooperative Research and Development Agreement, effective October 20, 2008 ("Agreement");
- B. **WHEREAS**, the Cooperator and the Center executed an amendment to the Cooperative Research and Development Agreement ("Amendment No. 1") to add additional research and funding to the project, effective February 16, 2012;
- C. **WHEREAS**, the Cooperator and the Center want to amend the Agreement to extend the period of performance for this Agreement;
- D. **WHEREAS**, the Cooperator and the Center want to clarify the research project reports to this Agreement, reflected in Attachment A;
- E. **WHEREAS**, the Center wants to change the Assigned Personnel to this Agreement;
- F. **WHEREAS**, the Center views its continued cooperation with the Cooperator to be in furtherance of the public interest;

**NOW, THEREFORE**, the parties amend and supplement the Agreement as follows:

1. Paragraph 2.3, Assigned Personnel, is amended by changing the Center Project Manager to Sandra Roberts, the Principal Investigator(s) to Dr. Matthew Martin and John Wambaugh, and the Authorized Representative to Dr. Russell Thomas. Drs. David Reif and David Dix are removed.
2. Paragraph 3.1, Final Reports, is amended to document a final deliverable of the requested ToxCast chemicals, with a clarification of remaining final

**Amendment 2 – Attachment A**  
**Cooperative Research Development Agreement (“CRADA)**  
**between the U.S. Environmental Protection Agency’s National Center for Computational**  
**Toxicology (“the Center”)**  
**and L’ORÉAL Advanced Research (“the Cooperator”)**

I. Final Reports/Deliverables

EPA’s National Center for Computational Toxicology and L’Oréal have agreed the combination of Phase II chemicals that were in progress and Phase III that were identified by L’Oréal satisfies the request for 24 ToxCast chemicals.

- A total of 39 cosmetically-relevant chemicals were identified by L’Oréal and provided to the US EPA-NCCT to collect at least 400 assay endpoint data using *in vitro* high throughput screening (HTS) technologies.
- From the list submitted, 9 chemicals were not tested due to technical limitations (could not be procured for various reasons due to e.g. reactivity, volatile, etc.). Data for at least 400 assay endpoints was delivered for the remaining 30 chemicals.

Clarification of the additional final deliverables from the US EPA are as follows:

- ToxRefDB will be populated with a sub-chronic and chronic data for 1000 chemicals.
- A model that predicts systemic lowest effect level (LEL). In Year 1 of the collaboration it was agreed upon by both parties to prioritize the development of a global systemic toxicity model after evaluation of target organ specific models.
- Critical case study using 19 cosmetically relevant chemicals identified by L’Oréal will be applied to the systemic toxicity model.
- At least 2 manuscripts describing the work completed in this collaboration.
- The Center shall submit a final report to the Cooperator summarizing the Center’s results and deliverables within 90 days after (a) completing the SOW or (b) the termination of this Agreement. The Cooperator shall submit a final report the Center of the Cooperator’s results and deliverables within 90 days of (a) completing the SOW or (b) the termination of this Agreement.

II. Duration

To complete the deliverables documented in this Cooperative Research Development Agreement (CRADA), between U.S. Environmental Protection Agency (EPA) and L’ORÉAL Advanced Research a no cost extension, to end December 31, 2015, will be recorded to complete deliverables documented in the statement of work in Amendment 1.