RADIOACTIVE MATERIAL LICENSE

Pursuant to the California Code of Regulations, Division 1, Title 17, Chapter 5, Subchapter 4, Group 2, Licensing of Radioactive Material, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, use, possess, transfer, or dispose of radioactive material listed below; and to use such radioactive material for the purpose(s) and at the place(s) designated below. This license is subject to all applicable rules, regulations, and orders of the California Department of Public Health now or hereafter in effect and to any standard or specific condition specified in this license.

1. Licensee: Western University of Health Sciences

2. Address: College Plaza, 309 East Second Street
   Pomona, CA 91766-1854

Attention: Donald E. Walters, Ph.D.
Radiation Safety Officer

3. License Number: 4288-19
   Amendment Number: 37

4. Expiration Date: May 17, 2018

5. Inspection Agency: Los Angeles County
   Department of Public Health

In response to the letter, dated October 14, 2016, signed by Donald E. Walters, Radiation Safety Officer, License Number 4288-19 is hereby amended as follows:

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<tr>
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<tbody>
<tr>
<td>A. Hydrogen-3</td>
<td>A. Any</td>
<td>A. Total not to exceed 925.0 MBq (25 mCi).</td>
</tr>
<tr>
<td>B. Carbon-14</td>
<td>B. Any</td>
<td>B. Total not to exceed 370.0 MBq (10 mCi).</td>
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<tr>
<td>C. Calcium-45</td>
<td>C. Any</td>
<td>C. Total not to exceed 74.0 MBq (2 mCi).</td>
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<tr>
<td>D. Chromium-51</td>
<td>D. Any</td>
<td>D. Total not to exceed 185.0 MBq (5 mCi).</td>
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<tr>
<td>E. Sulfur-35</td>
<td>E. Any</td>
<td>E. Total not to exceed 555.0 MBq (15 mCi).</td>
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<tr>
<td>F. Phosphorus-32</td>
<td>F. Any</td>
<td>F. Total not to exceed 925.0 MBq (25 mCi).</td>
</tr>
<tr>
<td>G. Iodine-125</td>
<td>G. Labeled</td>
<td>G. Total not to exceed 74.0 MBq (2 mCi).</td>
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</tbody>
</table>

9. Authorized Use

   A.-G. To be used for labeling and as tracers in chemical and biological (in vitro/in-vivo) studies. Radioidinations are not authorized.

LICENSE CONDITIONS

10. Radioactive material shall be used only at the following approved location:

   (a) College Plaza, 309 East Second Street, Pomona, CA.

11. This license is subject to an annual fee for sources of radioactive material authorized to be possessed at any one time as specified in Items 6, 7, 8 and 9 of this license. The annual fee for this license is required by and computed in accordance with Title 17, California Code of Regulations, Sections 30230-30232 and is also subject to an annual cost-of-living adjustment pursuant to Section 100425 of the California Health and Safety Code.
12. Radioactive material shall be used by, or under the supervision of, the following individuals:

  (a) Donald E. Walters, Ph.D.
  (b) Beatrice Saviola, Ph.D.
  (c) Bradley T. Andersen, Ph.D.
  (d) Gregory Brennan, D.V.M., Ph.D.
  (e) Arezoo Campbell, Ph.D.
  (f) Ying Huang, Ph.D.
  (g) Fadi Khasawneh, Ph.D.
  (h) Kabirullah Lutfy, Ph.D.
  (i) Mohammad Mir, Ph.D.
  (j) Miklos Peterfy, Ph.D.
  (k) Hendrik Szurmant, Ph.D.
  (l) Vishwanath Venketaraman, Ph.D.
  (m) J. Jeffrey Wang, Ph.D.

13. Except as specifically provided otherwise by this license, the licensee shall possess and use radioactive material described in Items 6, 7, 8 and 9 of this license in accordance with the statements, representations, and procedures contained in the documents listed below. The Department’s regulations shall govern unless the statements, representations, and procedures in the licensee’s application and correspondence are more restrictive than the regulations.

  (a) The letter, dated November 6, 2007, signed by Steven J. Henriksen, Ph.D., VP for Research & Biotechnology, and the renewal application dated January 23, 2008, signed by Arezoo Campbell, Ph.D., Radiation Safety Officer, with attachments thereto, as modified by the letter with attachments, dated March 17, 2008, and the letter dated May 13, 2008, both signed by Arezoo Campbell, Ph.D.
  (b) The letter dated May 8, 2009, with attachments, signed by Steven J. Henriksen, Ph.D., Vice President for Research & Biotechnology, regarding Duty and Responsibilities, and Delegation of Authority for Radiation Safety Officer and updated emergency telephone contact list.
  (c) The letter dated August 30, 2010, with attachments, and the letter dated October 5, 2010, with an attachment, both signed by Stanley Wong, Ph.D., Radiation Safety Officer, regarding the layout map and security details of new laboratory Room 229L for radioactive material use and temporary RAM waste storage.
  (d) The letter with attachments dated February 10, 2014, signed by Steven J. Henriksen, Ph.D., Vice President for Research and Biotechnology, regarding the Duties and Responsibilities, and Delegation of Authority for Radiation Safety Officer and updated Emergency Telephone Contact List.
  (e) The letter with attachments, dated February 25, 2014, signed by Donald E. Walters, Ph.D., Radiation Safety Officer, in regards to in-vivo procedures.
  (f) The letters dated July 8, 2014, and August 14, 2014, both with attachments, both signed by Donald E. Walters, Ph.D., Radiation Safety Officer, regarding the addition of room 229E for storing radioactive waste material.
  (g) The letters, with attachments, dated September 17, 2015, October 30, 2015, and January 15, 2016, all signed by Donald E. Walters, Ph.D., Radiation Safety Officer, regarding the layout map of three new rooms B103A, B103B and B103B1 for radioactive material use.
  (h) The letter, with attachments, dated September 7, 2016, signed by Donald E. Walters, Ph.D., Radiation Safety Officer, regarding the extension of Room B103B.1 restricted area for storing radioactive waste material.

14. (a) The Radiation Safety Officer in this program shall be Donald E. Walters, Ph.D.

(b) The Alternate Radiation Safety Officer in this program shall be Beatrice Saviola, Ph.D.

15. Radioactive materials shall be used by occupational workers in such a manner that the dose limits specified in Title 10, Code of Federal Regulations, Part 20, Subpart C, Sections 20.1201 through 20.1208 are not exceeded.
16. The licensee shall monitor occupational exposures to radiation and shall supply and require the use of individual monitoring devices by personnel as required by Title 10, Code of Federal Regulations, Part 20, Section 20.1502 (a).

17. The licensee shall monitor occupational intakes of radioactive material by, and assess the committed effective dose equivalent to, individuals who may have exceeded or are likely to exceed, the limits specified in Title 10, Code of Federal Regulations, Part 20, Section 20.1502 (b). Suitable and timely measurements used for determination of such internal exposures shall be performed as specified by Section 20.1204.

18. The licensee is authorized to hold radioactive materials with a physical half-life of less than or equal to 120 days for decay in storage before disposal in ordinary trash provided:
   (a) Radioactive waste to be disposed of in this manner shall be held for decay in storage for at least 10 half-lives.
   (b) Before disposal as normal waste, radioactive waste shall be surveyed to determine that its radioactivity cannot be distinguished from background. All radiation labels shall be removed or obliterated.
   (c) Records shall be maintained of the disposal of licensed materials made by decay in storage. These records shall be sufficient to demonstrate compliance with this license condition and shall be retained for 3 years after the record is made.

19. The licensee will provide the Low Level Radioactive Waste (LLRW) reports specified in the California Health and Safety Code section 115000.1(h) to the California Department of Public Health (CDPH) on an annual basis for both shipped and stored LLRW. Alternatively, LLRW shipment information may be provided on a per shipment basis. LLRW shipment information and annual reports shall be mailed to:
   Attn: LLRW Tracking Program
   California Department of Public Health
   Radiologic Health Branch MS 7610
   P.O. Box 997414
   Sacramento, CA 95899-7414

20. At least 30 days prior to vacating any address of use listed in Condition 10 of this license, the licensee shall provide written notification of intent to vacate to the California Department of Public Health, in accordance with Title 17, California Code of Regulations, Section 30256 (b). Control of all licensed areas must be maintained until such areas are released by the Department for unrestricted use or the license is terminated, in accordance with Title 17, California Code of Regulations, Section 30256 (j).

21. A copy of this license and a copy of all records and documents pertaining to this license shall be maintained available for inspection at College Plaza, 309 East Second Street, Pomona, CA.

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Issued for the State of California Department of Public Health

Date: December 5, 2016

By:

[Signature]

Radiologic Health Branch
P.O. Box 997414, Mall Stop 7610
Sacramento, CA 95899-7414