

MATERIALS LICENSE

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 36, 37, 39, 40, 70 and 71, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

Licensee 1. Endocyte Incorporated 2. 3000 Kent Avenue West Lafayette, IN 47906		In accordance with letter dated December 15, 2017.	4. Expiration Date: December 31, 2019
		3. License number: 13-32212-01 is amended in its entirety to read as follows:	5. Docket No.: 030-35228 Reference No.:
6. Byproduct, source, and/or special nuclear material	7. Chemical and/or physical form	8. Maximum amount that licensee may possess at any one time under this license	9. Authorized use
A. Hydrogen-3	A. Any non-volatile	A. 100 millicuries total	A. For research and development as defined in 10 CFR 30.4, including animal studies.
B. Carbon-14	B. Any non-volatile	B. 10 millicuries total	B. Same as Item 9.A.
C. Phosphorus-32	C. Any non-volatile	C. 20 millicuries total	C. Same as Item 9.A.
D. Phosphorus-33	D. Any non-volatile	D. 10 millicuries total	D. Same as Item 9.A.
E. Sulfur-35	E. Any non-volatile	E. 20 millicuries total	E. Same as Item 9.A.
F. Technetium-99	F. Any	F. 1 millicurie total	F. Same as Item 9.A.
G. Technetium-99m	G. Any non-volatile	G. 500 millicuries total	G. Same as Item 9.A.
H. Iodine-125	H. Any non-volatile	H. 10 millicuries total	H. Same as Item 9.A.
I. Iodine-125	I. Liquid	I. 10 millicuries total	I. Same as Item 9.A.

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6. Byproduct, source, and/or special nuclear material	7. Chemical and/or physical form	8. Maximum amount that licensee may possess at any one time under this license	9. Authorized use
J. Gallium-67	J. Liquid	J. 30 millicuries total	J. Same as Item 9.A.
K. Gallium-68	K. Liquid	K. 80 millicuries total	K. Same as Item 9.A.
L. Indium-111	L. Liquid	L. 20 millicuries total	L. Same as Item 9.A.
M. Astatine-211	M. Liquid	M. 100 millicuries total	M. Same as Item 9.A.
N. Radium-223	N. Liquid	N. 10 millicuries total	N. Same as Item 9.A.
O. Actinium-225	O. Solid	O. 60 millicuries total	O. Same as Item 9.A.
P. Yttrium-90	P. Liquid	P. 20 millicuries total	P. Same as Item 9.A.
Q. Lutetium-177	Q. Liquid	Q. 500 millicuries total	Q. Same as Item 9.A.
R. Iodine-131	R. Sodium Iodide I-131, Liquid	R. 30 millicuries total	R. Same as Item 9.A.
S. Copper-67	S. Liquid	S. 50 millicuries total	S. Same as Item 9.A.
T. Thorium-227	T. Solid or Liquid	T. 50 millicuries total	T. Same as Item 9.A.
U. Tungsten-188	U. Any	U. 350 millicuries total	U. For use in a Tungsten-188/Rhenium-188 generator for research and development as defined in 10 CFR 30.4, including animal studies.
V. Rhenium-188	V. Any	V. 350 millicuries total	V. For use in a Tungsten-188/Rhenium-188 generator for research and development as defined in 10 CFR 30.4, including animal studies.

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|---|----------------------------------|--|----------------------|
| 6. Byproduct, source, and/or special nuclear material | 7. Chemical and/or physical form | 8. Maximum amount that licensee may possess at any one time under this license | 9. Authorized use |
| W. Rhenium-186 | W. Liquid | W. 200 millicuries total | W. Same as Item 9.A. |

CONDITIONS

10. Licensed material may be used or stored at the licensee's facilities located at: 3000 Kent Avenue, West Lafayette, Indiana, 47906.
11. The Radiation Safety Officer (RSO) for this license is Le-Cun Xu, Ph.D.
12. Licensed material shall be used by, or under the supervision of, the following individuals for the materials and uses indicated:
- | | |
|------------------------------|----------------------------------|
| <u>Authorized Users</u> | <u>Material and Use</u> |
| Le-Cun Xu, Ph.D. | All |
| Marilyn Vetzal | Items 6.A through 6.I. |
| Christopher P. Leamon, Ph.D. | Items 6.A through 6.I. |
| Joseph A. Reddy, Ph.D. | Items 6.A, and 6.G. through 6.I. |
13. In addition to the possession limits in Item 8, the licensee shall further restrict the possession of licensed material to quantities below the minimum limit specified in 10 CFR 30.35(d) for establishing decommissioning financial assurance.
14. The licensee is authorized to hold radioactive material with a physical half-life of less than or equal to 120 days for decay-in-storage before disposal in ordinary trash provided:

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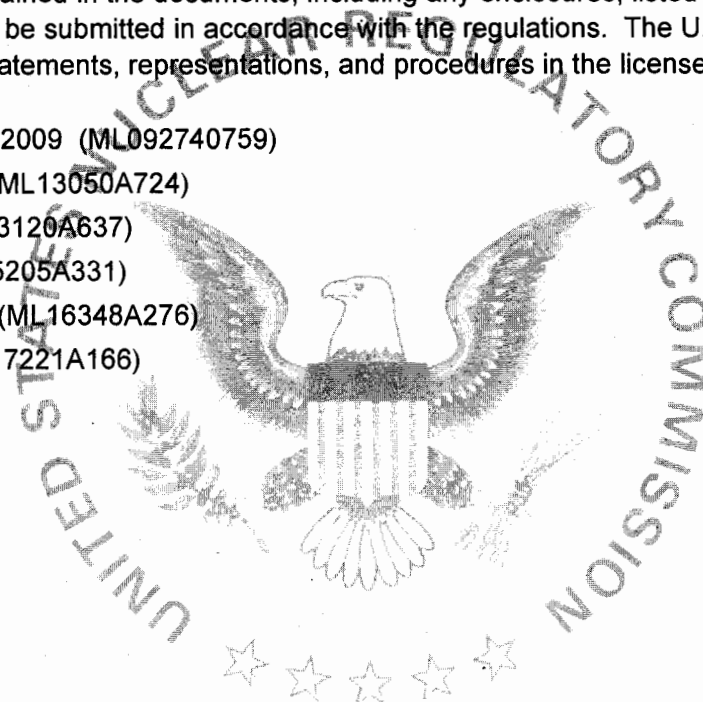
- A. Before disposal as ordinary trash, the waste shall be surveyed at the container surface with the appropriate survey instrument set on its most sensitive scale and with no interposed shielding to determine that its radioactivity cannot be distinguished from background. All radiation labels shall be removed or obliterated, except for radiation labels on materials that are within containers and that will be managed as biomedical waste after they have been released from the licensee.
- B. A record of each disposal permitted under this License Condition shall be retained for three years. The record must include the date of disposal, the date on which the byproduct material was placed in storage, the radionuclides disposed, the survey instrument used, the background dose rate, the dose rate measured at the surface of each waste container, and the name of the individual who performed the disposal.
15. The licensee shall not use licensed material in or on human beings.
16. The licensee shall not use licensed material in field applications where activity is released except as otherwise provided by specific condition of this license.
17. Experimental animals, or the products from experimental animals, that have been administered licensed material shall not be used for human consumption.

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18. Except as specifically provided otherwise in this license, the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the documents, including any enclosures, listed below. This license condition applies only to those procedures that are required to be submitted in accordance with the regulations. The U.S. Nuclear Regulatory Commission's regulations shall govern unless the statements, representations, and procedures in the licensee's application and correspondence are more restrictive than the regulations.

- A. Application dated September 25, 2009 (ML092740759)
- B. Letter dated February 14, 2013 (ML13050A724)
- C. Letter dated April 29, 2013 (ML13120A637)
- D. Letter dated July 23, 2015 (ML15205A331)
- E. Letter dated December 12, 2016 (ML16348A276)
- F. Letter dated August 7, 2017 (ML17221A166)



FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Date: March 2, 2018

By: _____

Frank P. D. Tran
Region 3