U.S. NUCLEAR REGULATORY COMMISSION

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.

1.	Licensee 1. RayzeBio, Inc.			In accordance with letter dated December 21, 2023,		4. Expiration Date: December 31, 2038	
2.	5850 West 80th Street Indianapolis, IN 46278		SAIC		: 13-35699-01MD in its entirety to read	1	ret No.: 030-39337 rence No.:
6.	Byproduct, source, and/or special nuclear material	7.	Chemical and/or physical fo	orm 8	Maximum amount that licen may possess at any one timunder this license		Authorized use
A.	Actinium-225	A.	Any S S	A.	25 millicuries total	A.	For preparation, distribution and redistribution of radioactive drugs and radiochemicals for medical use in accordance with 10 CFR 32.72 and for non-medical use to authorized recipients. Also, for research and development as defined in 10 CFR 30.4.
В.	Actinium-227	B.	Any	BA	500 microcuries total	B.	For possession and use as an impurity in accelerator-produced actinium-225.
C.	Gallium-68	C.	Any	C.	30 millicuries total	C.	For research and development as defined in 10 CFR 30.4.
D.	Lutetium-177	D.	Any	D.	1 curie total	D.	Same as Item 9.A.
E.	Technetium-99m	E.	Any	E.	50 millicuries total	E.	For use in calibration and checking of the licensee's instruments.
F.	Radium-223	F.	Any	F.	2 millicuries total	F.	For possession and use as an impurity in thorium-229.

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				Amendment No. 1					
6.	Byproduct, source, and/or special nuclear material	7.	Chemical ar	nd/or physical form	8. 3 R		ount that licensee at any one time nse	9.	Authorized use
G.	Radium-224	G.	Any	CLEA	G.	2 millicuries t	otal	G.	Same as Item 9.F.
Н.	Thorium-228	Н.	Any	30.	Н.	17 millicuries	total	Н.	Same as Item 9.F.
I.	Thorium-229	l.	Any	8	I.	5 millicuries t	otal	I.	Same as Item 9.C.
J.	Thorium-232	J.	Any	S	J.	200 microcur	ies total	J.	Same as Item 9.E.
K.	Any byproduct material permitted by 10 CFR 35.65(a)(1) and (a)(2)	K.	Sealed Sou	rces	K	3 millicuries p and 25 millicuries		K.	Same as Item 9.E.
L.	Any byproduct material permitted by 10 CFR 35.65(a)(4)	L.	Any	n M	L.	10 microcurie	es total	L.	Same as Item 9.E.
M.	Any byproduct material, source material, and/or special nuclear material with Atomic Numbers 84 through 103	M.	Any	S. IV	M.	10 microcurie	es total	M.	Same as Item 9.F.
CONDITIONS									
10. Licensed material shall be used or stored at the licensee's facilities located at 5850 West 80th St., Indianapolis, Indiana, 46278.									
11. A. The Radiation Safety Officer (RSO) for this license is Matthew Hadden.									
	B. The Associate RS	O (Al	RSO) for thi	s license is Ian Schall	ler.				

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12. Licensed material shall only be used by, or under the supervision of:

Christopher Gonzalez

Tracey Mills

Isaac Simmonds, Ph.D.

Daniel Gonzalez

Andrew Obot

Bryan Wilkens

Matthew Hadden

Ian Schaller

- 13. A. Sealed sources and detector cells shall be tested for leakage and/or contamination at intervals not to exceed the intervals specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or by an Agreement State. In the absence of a registration certificate, sealed sources shall be tested for leakage and/or contamination at intervals not to exceed six months, or at such other intervals as specified.
 - B. Notwithstanding Paragraph A of this Condition, sealed sources designed to primarily emit alpha particles shall be tested for leakage and/or contamination at intervals not to exceed three months.
 - C. In the absence of a certificate from a transferor indicating that a leak test has been made within the intervals specified in the certificate of registration issued by the U.S. Nuclear Regulatory Commission under 10 CFR 32.210 or by an Agreement State, prior to the transfer, a sealed source received from another person shall not be put into use until tested and the test results received.
 - D. Sealed sources need not be tested if they contain only hydrogen-3; or they contain only a radioactive gas; or the half-life of the isotope is 30 days or less; or they contain not more than 100 microcuries of beta- and/or gamma-emitting material or not more than 10 microcuries of alpha-emitting material.
 - E. Sealed sources need not be tested if they are in storage and are not being used. However, when they are removed from storage for use or transferred to another person, and have not been tested within the required leak test interval, they shall be tested before use or transfer. No sealed source shall be stored for a period of more than 10 years without being tested for leakage and/or contamination.

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- F. The leak test shall be capable of detecting the presence of 185 becquerels (0.005 microcuries) of radioactive material on the test sample. If the test reveals the presence of 185 becquerels (0.005 microcuries) or more of removable contamination, a report shall be filed with the U.S. Nuclear Regulatory Commission in accordance with 10 CFR 30.50(c)(2), and the source shall be removed immediately from service and decontaminated, repaired, or disposed of in accordance with Commission regulations.
- G. Tests for leakage and/or contamination, including leak test sample collection and analysis, shall be performed by the licensee or other persons specifically licensed by the U.S. Nuclear Regulatory Commission or an Agreement State to perform such services.
- H. Records of leak test results shall be kept in units of becquerels (microcuries) and shall be maintained for three years.
- 14. The licensee shall conduct a physical inventory every six months, or at other intervals approved by the U.S. Nuclear Regulatory Commission, to account for all sealed sources and/or devices received and possessed under the license. Records of inventories shall be maintained for three years from the date of each inventory, and shall include the radionuclides, quantities, manufacturer's name and model numbers, and the date of the inventory.
- 15. Sealed sources containing licensed material shall not be opened or sources removed from source holders by the licensee, except as specifically authorized.
- 16. Except for maintaining labeling as required by 10 CFR Part 20, or Part 71, the licensee shall obtain authorization from the U.S. Nuclear Regulatory Commission before making any changes in the sealed source, device, or source-device combination that would alter the description or specifications as indicated in the respective certificate of registration issued either by the U.S. Nuclear Regulatory Commission pursuant to 10 CFR 32.210 or by an Agreement State.

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- 17. This license does not authorize distribution to persons exempt from licensing.
- 18. 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:
 - 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 such 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.

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representations, and procedures contained those statements, representations, and p	ed in the documents, including any enclorocedures that are required to be submit all govern unless the statements, represt requirements that are more restrictive th	uct its program in accordance with the statements, osures, listed below. This license condition applies only to itted in accordance with the regulations. The U.S. Nuclear centations, and procedures in the licensee's application and nan or in addition to the regulations.				
B. Letter dated May 15, 2023 (ML2313)		C				
C. Letter dated July 7, 2023 (ML23240AD. Letter dated August 4, 2023 (ML2326		9				
E. Letter dated August 14, 2023 (ML232		11.1				
<u> </u>						
G. Letter dated November 10, 2023 (ML	G. Letter dated November 10, 2023 (ML23320A260)					
	FOR	THE U. S. NUCLEAR REGULATORY COMMISSION				
Date: February 15, 2024		Bryan A. Parker Region III				