Opportunity Title: FDA postdoctoral fellowship - Assessment of mesenchymal stromal cell extracellular vesicle mediation of vascular-immune cell interactions
Opportunity Reference Code: FDA-OWH-2026-0002

Organization U.S. Food and Drug Administration (FDA)

Reference Code FDA-OWH-2026-0002

How to Apply ***To submit your application, scroll to the bottom of this opportunity and click APPLY.***

A complete application consists of:

- An application
- Transcripts – Click here for detailed information about acceptable transcripts
- A current resume/CV, including academic history, employment history, relevant experiences, and publication list
- Three educational or professional recommendation

All documents must be in English or include an official English translation.

If you have questions, send an email to ORISE.FDA.OC.other@orau.org. Please include the reference code for this opportunity in your email.

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Application Deadline 3/27/2026 3:00:00 PM Eastern Time Zone

Description ***Applications will be reviewed on a rolling-basis.**

FDA Office and Location: A Postdoctoral Fellow opportunity is available immediately to join a collaborative project between the U.S. Federal Drug Administration (FDA) Center for Biologics Evaluation and Research (CBER) in the Office of Therapeutic Products (OTP) and Dr. Erika Moore's team at the University of Maryland. Funding for this opportunity will be provided by the Office of Commissioner (OC), Office of Women's Health (OWH).

Research Project: The Marklein laboratory (FDA-CDER-OPT) and the Moore laboratory (University of Maryland) are seeking a highly motivated postdoctoral researcher to join a collaborative project with interdisciplinary research that focuses on developing mesenchymal stromal cell-derived extracellular vesicles (MSC-EVs) as a novel therapeutic approach for systemic lupus erythematosus (SLE), a devastating autoimmune disease that disproportionately affects young women, particularly African American women who face three times higher risk and mortality rates.

The project addresses a critical unmet medical need as cardiovascular disease represents the leading cause of death in SLE patients (accounting for up to 30% of fatalities). As part of the team, the fellow will investigate how MSC-EVs can modulate key cellular players in SLE-associated cardiovascular complications—specifically pericytes, endothelial cells, and monocytes—which are critical regulators of immune cell activation, vascular dysfunction, and disease progression. The selected candidate will explore

how manufacturing conditions influence MSC-EV production and function in the context of SLE.

Learning Objectives: The selected postdoctoral fellow will receive exceptional training opportunities in cutting-edge cell therapy research, combining expertise in immunology, vascular biology, and bioengineering across two complementary laboratories. Specific learning objectives include:

- Gaining hands-on experience with advanced cell culture techniques, extracellular vesicle isolation and characterization, and complex 2D/3D co-culture systems
  - Determine the impact of mesenchymal stromal cell extracellular vesicles (MSC-EVs) on cell-types relevant to systemic lupus erythematosus (SLE)
  - Characterize MSC-EVs derived from different manufacturing conditions (media, flask vs. bioreactor etc)
  - Develop SLE co-cultures to investigate the role of pericytes in modulating vascular inflammation
- Professional development through publication in high-impact journals and presentation at national conferences as well as preparation for future careers related to product research and development, quality control, regulatory science, and clinical translation

Mentor: The FDA mentor for this opportunity is Ross Marklein (ross.marklein@fda.hhs.gov). If you have questions about the nature of the research, please contact the mentor.

Anticipated Appointment Start Date: Winter 2026. Start date is flexible and will depend on a variety of factors.

Appointment Length: The appointment will initially be for one year, but may be renewed upon recommendation of FDA and is contingent on the availability of funds.

Level of Participation: The appointment is full time.

Participant Stipend: The participant will receive a monthly stipend commensurate with educational level and experience.

Citizenship Requirements: This opportunity is available to U.S. citizens only.

This program, administered by ORAU through its contract with the U.S. Department of Energy to manage the Oak Ridge Institute for Science and Education, was established through an interagency agreement between DOE and FDA. The participant will receive a monthly stipend commensurate with educational level and experience. Proof of health insurance is required for participation in this program. Participants do not become employees of FDA, DOE or the program administrator, and there are no employment-related benefits.

Completion of a successful background investigation by the Office of Personnel Management is required for an applicant to be on-boarded at FDA. OPM can complete a background investigation only for individuals,

including non-US Citizens, who have resided in the US for a total of three of the past five years.

FDA Ethics Requirements

If an ORISE Fellow, to include their spouse and minor children, reports what is identified as a Significantly Regulated Organization (SRO) or prohibited investment fund financial interest in any amount, or a relationship with an SRO, except for spousal employment with an SRO, and the individual will not voluntarily divest the financial interest or terminate the relationship, then the individual is not placed at FDA. For additional requirements, see FDA Ethics for Nonemployee Scientists.

FDA requires ORISE participants to read and sign their FDA Education and Training Agreement within 30 days of his/her start date, setting forth the conditions and expectations for his/her educational appointment at the agency. This agreement covers such topics as the following:

- Non-employee nature of the ORISE appointment;
- Prohibition on ORISE Fellows performing inherently governmental functions;
- Obligation of ORISE Fellows to convey all necessary rights to the FDA regarding intellectual property conceived or first reduced to practice during their fellowship;
- The fact that research materials and laboratory notebooks are the property of the FDA;
- ORISE fellow's obligation to protect and not to further disclose or use non-public information.

Qualifications The qualified candidate should have received a doctorate in one of the relevant fields (biomedical engineering) or currently pursuing with an expected graduation date before May 31, 2026. Degree must have been received within the past three years.

Preferred skills:

- The preferred candidate would have demonstrated experience with 5 or more of the following research areas/techniques:
  - cell culture (i.e. cell manufacturing)
  - extracellular vesicle manufacturing and characterization
  - high content imaging
  - biomaterials
  - bioreactors
  - multiomics (proteomics/metabolomics)
  - immunology
  - machine learning/AI
  - single cell profiling

Point of Contact Ashley

Eligibility
- **Citizenship:** U.S. Citizen Only

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Requirements

- **Degree:** Doctoral Degree received within the last 36 months or anticipated to be received by 5/31/2026 11:59:00 PM.
- **Discipline(s):**
  - **Engineering** (27 👁)
  - **Life Health and Medical Sciences** (51 👁)

Affirmation

I am a U.S. citizen,
and
I have read the FDA Ethics Requirements.