position description

Date: June 2021
Title: Research Assistant 3
Department: Genetics and Genome Sciences
School: Medicine
Location: BRB
Supervisor Name and Title: David Buchner, PhD, Assistant Professor

POSITION OBJECTIVE

Working under limited supervision, the Research Assistant 3 will perform research tasks related to understanding the genetic and molecular basis of obesity and type 2 diabetes, with a focus on adipocyte biology. The research assistant will coordinate, design, implement, test and validate data collection and analysis in molecular biology and genetics. This position will work with animals.

ESSENTIAL FUNCTIONS

1. Work closely with the principal investigator and other lab members, oversee, develop and optimize experiments on animal models of metabolic disease. (25%)

2. Carry out complex research assignments of a non-routine nature. Key tasks will include adipocyte cell culture, measurements of adipocyte function, gene expression analysis, gene knockdown and knockout studies. (25%)

3. Devise new protocols and techniques for research projects involving a high degree of skill and training. Specific tasks include the design and administration of lentiviral constructs for gene knockdown; DNA and RNA isolation for genotyping and gene expression analysis; measurement of mouse physiology and glucose homeostasis; design of CRISPR gene knockout vectors and tissue specific knockouts in mice. (14%)

4. Evaluate adequacy of techniques; study and test new procedures and analyzes data. Review the accuracy of all data collected and statistical analysis of such data. Ensure high efficiency adipocyte differentiation in cultured cells. Ensure quality analysis of gene expression measurements and mouse phenotyping. (9%)

5. Coordinate laboratory/ research activities. Ensure that the lab is stocked with all necessary supplies and equipment. Ensure the supplies of tissue culture CO2 tanks and liquid N2 for sample storage. Oversee updating the lab safety plans and annual inventory requirements. Monitor critical lab infrastructure, including freezers, refrigerators and samples storage. (9%)

6. May monitor the laboratory budget. Review lab inventory and monitor procurement, as needed. Coordinate with vendors to oversee purchasing and assist lab members with ordering. (6%)

7. May supervise students and technicians. Train new staff regarding standard lab policies and procedures and well as lab-specific safety requirements. (6%)

8. Participate in manuscript and grant writing, review data and figure quality, co-author research projects and provide data to the principal investigator for progress reports, manuscripts and grant applications. (6%)

CASE WESTERN RESERVE UNIVERSITY
EST. 1826
think beyond the possible
NONESSENTIAL FUNCTIONS
Perform other duties as assigned. (<1%)

CONTACTS
Department: Daily contact with supervisor and lab personnel to discuss research projects.
University: Occasional contact with other departments and local collaborators to discuss research progress and administrative tasks for lab safety and animal protocol requirements.
External: Limited with vendors to exchange information.
Students: Frequent contact with student, fellow, postdocs and other trainees to exchange information.

SUPERVISORY RESPONSIBILITY
May supervise students and technicians.

QUALIFICATIONS
Experience: 3 to 5 years of related experience required.
Education/Licensing: Bachelor’s degree in science required.

REQUIRED SKILLS
1. Has knowledge of commonly-used concepts, practices and procedures within a particular field.
2. Relies on instructions and pre-established guidelines to perform the functions of the job.
3. Ability to operate laboratory equipment.
4. Must demonstrate compliance with university animal research and care (ARC) policies and procedures and compliance to regulations of the Animal Welfare Act, Public Health Service Policy, AAALAC guidelines and other applicable regulatory guidelines.
5. Must demonstrate compassion for animals within university facilities and dedication to the Animal Resource Center’s mission. Must handle animals with care and respect at all times.
6. Must be able and willing to learn new techniques, procedures and processes to protect the health of the animals.
7. Previous experience working with animals preferred.
8. Strong molecular biology skills (PCR, DNA library prep, cloning, Retroviral constructs).
9. Strong organization skills and good habit of maintaining a clean lab working environment; demonstrate attention to detail and accuracy, time management skills and proven ability to successfully follow-through on assigned projects.
10. Professional and effective verbal and written communication skills and good interpersonal skills with the ability to work and communicate with various individuals within and external to the university.
11. Ability to work effectively independently and collaboratively within a team (must be highly motivated, responsible, dependable and a self-starter).
12. Ability to maintain meticulous, complete and easily retrievable laboratory data, including comfort with electronic lab notebooks.

13. Ability to willingly learn new techniques and procedures as needed, follow established protocols or laboratory procedures and request clarification if necessary.

14. Ability to meet consistent attendance.

15. Ability to interact with colleagues, supervisors and customers face to face.

WORKING CONDITIONS

General laboratory environment: The lab is an open floor plan with abundant bench space. Ample desk space with computers are also provided. The lab is equipped with one shared fume hood for storage of hazardous and non-hazardous materials. Personal protective equipment, including lab coat, gloves and goggles, will be provided to limit exposure to hazards. Handling of recombinant vectors requires BSL-2 training. Our cell culture room nearby is equipped with incubators, culture hood and microscope. The employee should expect frequent interactions with lab members and must be willing to collaborate.

Case Western Reserve University’s animal facilities are accredited by the Association for the Assessment and Accreditation of Laboratory Animal Care (AAALAC) and is managed according to the “Guide for the Care and Use of Laboratory Animals” appropriate Federal Animal Welfare Regulations and the Public Health Service “Policy on the Humane Care and Use of Laboratory Animals.” This position and all animal research personnel, are subject to internal compliance to SOM Animal Resource Center Standard Operating Procedures and to compliance regulations of the Animal Welfare Act, Public Health Service Policy, AAALAC guidelines, the State of Ohio Veterinary Practice Act, Federal Drug Enforcement Administration regulatory guidelines, US Food and Drug Administration Center for Veterinary Medicine regulations and other applicable regulatory guidelines.