position description

Date: December 2021

Title: Research Assistant 3

Department: Genetics and Genome Sciences

School: Medicine

Location: BRB

Supervisor Name and Title: Thomas LaFramboise, PhD, Associate Professor

POSITION OBJECTIVE

Working under limited supervision the Research Assistant 3 will carry out complex research assignments of a non-routine nature working closely with the PI to perform research tasks involving *in vitro* and *ex vivo* (organoid) experiments related to cancer research and drug discovery. The research assistant will test and validate data collection and analysis methods in molecular biology and genetics.

ESSENTIAL FUNCTIONS

1. Coordinate lab research activities such as reviewing the efficiency of *in vitro* genetic engineering techniques and complex quantitative precision of experiments. May monitor lab budget. (10%)
2. Carry out complex research assignments of a non-routine nature. Specific tasks include the design of new plasmid pools, immunohistochemistry, and general molecular biology work (plasmid cloning, PCR, DNA extractions, etc.). (20%)
3. Devise new protocols and techniques and optimize experiments in cell line manipulation and drug screening, as well as in genetic perturbations and assays in organoid systems. Coordinate information with others as needed. (24%)
4. Evaluate adequacy of techniques; study and test new procedures and analyze data and give recommendations to the principal investigator regarding significant developments in research projects. Key complex tasks include the creation of cytoplasmic hybrids (“cybrids”), coordination of cell culture, and inducing overexpression/knockouts in *in vitro* and *ex vivo* models. (20%)
5. Train lab personnel in research techniques and standard laboratory policies as well as basic molecular genetics research techniques. May supervise research assistants, technicians and students. (20%)
6. Work closely with the principal investigator for sponsor progress reports, manuscripts, grant and pilot applications. Participate in manuscript and grant writing, review data and figure quality. May co-author research projects. (6%)

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 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. Strong molecular biology skills (PCR, DNA library prep, cloning, Retroviral constructs).
5. 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.
6. 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.
7. Ability to work effectively independently and collaboratively within a team (must be highly motivated, responsible, dependable and a self-starter).
8. Ability to maintain meticulous, complete and easily retrievable laboratory data, including comfort with electronic lab notebooks.
9. Ability to willingly learn new techniques and procedures as needed, follow established protocols or laboratory procedures and request clarification if necessary.
10. Ability to meet consistent attendance.
11. Ability to interact with colleagues, supervisors and collaborators 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.