Positions: **RESEARCH TECHNICIAN (Job ID: 31391BR)**
RESEARCH ASSISTANT (Job ID: 32224BR)

Department: Department of Microbiology at UAB

Laboratory: Amy Weinmann, Ph.D.
Associate Professor

General Characteristics:
Seeking a highly motivated individual to perform molecular biology and immunology research studies. Under the direction of the Principal Investigator, the person will perform experiments to address the mechanisms by which lineage-specifying transcription factors contribute to cellular differentiation and activation states in the immune system. The individual will be expected to develop critical thinking skills to contribute to the design and undertaking of experiments.

Typical Duties and Responsibilities:

1. Contribute to individual research project: perform experiments and help analyze data.
2. Perform experimental techniques including PCR, Western blot, DNA preparation and cloning, chromatin immunoprecipitation assay, cell culture and transfections, and flow cytometry.
3. Responsible for mouse colony maintenance and oversight.
4. Willingness to work both as a team member and individual.
5. Presentation of research findings.
6. Other duties as requested.

Education Requirement: For the Research Technician position (Job ID: 31391BR), a Bachelor's degree in biological sciences is required. Applicants projected to complete their Bachelor's degree in the Spring of 2014 are also encouraged to apply (please indicate anticipated degree date in cover letter). For the Research Assistant position (Job ID: 32224BR), a Bachelor's degree plus two years of experience is required.

Desired Experience: Highly motivated individuals of all experience levels are encouraged to apply. At least one year of experience in immunology or molecular biology research and experience working with mice is perferred.

Laboratory Research Interests/Description
The Weinmann laboratory studies the mechanisms by which lineage-specifying transcription factors regulate cell fate specific gene expression patterns in immune cell development. It has long been appreciated that individual cell lineages have distinct gene expression profiles that are necessary for the appropriate functioning of each unique cell type in the body. During development, there is a dynamic regulation of gene expression patterns that allows multipotential progenitor cells to differentiate towards a defined and committed endpoint lineage. This type of process starts at the outset of the organism, as embryonic stem cells begin with the potential to become any cell type of the body, but progressive decisions during development commit each cell to a well-defined lineage. In the immune system, hematopoietic stem cells can self renew, and in response to environmental signaling events, have the potential to become any cell type in the immune system. The complement of lineage-specifying transcription factors present in a cell is ultimately responsible for determining the cellular phenotype by creating a cascade of gene expression changes that defines its functional capability. Even minor alterations in the activities of developmental transcription factors can severely compromise the commitment process and have pathogenic consequences. This has been well documented, with genetic mutations in several key transcription factor families associated with birth defects and cancer. Most notably in the immune system, numerous types of leukemia and lymphoma are attributable to translocation events that disrupt transcription factors.

A major focus of the research in the Weinmann lab has been defining the mechanisms that the T-box and BTB-ZF factors utilize to promote cellular transitions that lead to the specialization of $CD4^+$ T cell functional subsets. We are defining the mechanisms these families utilize to establish epigenetic patterns in a cell-type and activation-state specific manner as well as their role in other aspects of gene regulation. Collectively, our mechanistic studies will provide new insight into many human diseases that are associated with dysregulation of these pathways, including a major emphasis on blood cancers, autoimmunity, and pathogenic immune responses.

Click here to be directed to the University Employment Website to apply for position openings.