

RESEARCH ASSISTANT POSITION

BRIGHAM AND WOMEN'S HOSPITAL IMMUNOLOGY

Contact: lbankova@bwh.harvard.edu

Purpose

The current position is in an Immunology Lab at the Brigham and Women's Hospital with a focus on the broader role of innate immune signaling in type 2 inflammatory diseases, such as asthma, food allergy, and polyposis. The lab has taken several approaches to understanding type 2 immunity including: 1) defining the molecular signatures and key regulatory proteins in allergen-activated immune cells; 2) validation of immune pathways in preclinical models of allergic disease; 3) expression analysis of murine and human innate immune cells in naive and type 2 inflammatory conditions. The successful candidate will work under the supervision of the Principal Investigator and assist in performing immunology and molecular biology experiments in cell cultures and animal models. Additionally, the research assistant will, under direct supervision of the Principal Investigator, help to develop new assays.

Essential Functions

Key functions include performing in vivo experiments in mice, cell culture (epithelial cells, mast cells, macrophages, dendritic cells) maintenance, immunologic and molecular techniques to characterize experimental results (confocal microscopy, flow cytometry, ELISA, qPCR, western blotting, and transcript analysis). In addition, the research assistant will maintain murine colonies, organize and prepare laboratory reagents required for the experiments. He/She is able to recognize key issues and develop the approach and design of projects under supervision.

Qualification

- **Required Education & Experience:**
- Minimum of B.S. degree in biological sciences.
- Experience participating in the development and execution of hypothesis driven research is required.
- **Preferred Experience:**
- Experience with basic molecular biology and imaging techniques.
- Experience in working with animal models is a plus.

Skills/Knowledge

- Detail oriented, with the ability to work within a team with a high level of precision, yet thrive as an individual contributor.
- Well-developed interpersonal abilities and communication skills.
- Demonstrated ability to work on multiple projects of varying complexity.
- Demonstrated ability to methodically record data.

Laboratory

The current position available involves working under the direct supervision of Dr. Lora Bankova (Faculty in Medicine). Additional lab members include Dr. Yoshihide Kanaoka (a molecular biologist), Dr. Dan Dwyer (post doc fellow, immunologist), Dr. Matt Giannetti (post doc fellow, Allergy / Immunology), Dr. Nora Barrett (Faculty in Medicine), and Eri Yoshimoto (technician).

Environment

Dr. Barrett has weekly laboratory meetings to discuss results and plan experiments. Additionally the laboratory is in a highly engaging and collaborative environment. Within the Rheumatology Immunology Allergy Division on the 5th and 6th floors of the Building for Transformative Medicine at BWH. There are 7 NIH funded laboratories pursuing basic, translational, and clinical work related to Allergic Inflammation. This includes studies on IgE development (Dr. Wesemann), NKT cell antigens in food allergy (Dr. Brennan), alternatively activated macrophages (Dr. Balestrieri), aspirin-exacerbated respiratory disease (Dr. Laidlaw), epidemiologic studies on food allergy (Dr. Savage), eicosanoid signaling (Dr. Boyce), and DC biology (Dr. Barrett). These groups meet for a monthly rotating seminar and for a monthly basic science journal club. Additionally, through the Partners Asthma Center, there are monthly research meeting with presentations on asthma genomics (Dr. Scott Weiss / Dr. Benjamin Raby), asthma clinical trials (Dr. Elliot Israel), environmental exposures/risk (Dr. Diane Gold and Dr. Wanda Phipatanakul), airway smooth muscle function (Dr. Jeffrey Drazen), physical-mechanical signaling (Dr. Jeff Fredberg), and anti-inflammatory mechanisms (Dr. Bruce Levy). Additional opportunities for expanding immunology education include weekly seminars in the Harvard Medical School Program for Immunology.

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