



MedImmune, Inc.

## Job Description

### **Position #SWB27RIA**

**Job Title:** Postdoctoral Fellow – Science without Borders

**Site:** MedImmune, Gaithersburg, MD

**Department:** Research-Respiratory, Inflammation and Autoimmunity (RIA)

**Duration:** 2 years

We are seeking a highly motivated postdoctoral fellow to join the Respiratory, Inflammation and Respiratory (RIA) department to lead an independent research project focused on understanding the role of innate lymphoid cells in the immune-pathogenesis of autoimmune diseases particularly Sjögren's Syndrome. The successful candidate will work with a group of highly accomplished scientists and post-doctoral fellows interested in autoimmune and inflammatory diseases. The position offers a unique opportunity for a talented scientist to work in a dynamic environment that nurtures innovation and provides opportunities to develop career in biomedical research at the interface of basic research and drug discovery.

### **Major Duties and responsibilities:**

Candidate will mainly conduct *in vivo* and *ex vivo* experiments to characterize the innate lymphoid cells associated with Sjögren's Syndrome (SS) and determine their functional significance in the SS pathophysiology using a novel animal model and human blood from patients with primary SS. The candidate will extensively define the phenotypic characteristics of innate lymphoid and determine the molecular mechanisms by which innate lymphoid cells may regulate T and B cell activation. To accomplish this, the postdoctoral fellow will perform *ex vivo* experiments with FACS-sorted primary mouse and human innate lymphoid cells. The candidate is expected to independently design and execute experiments, summarize data for presentations and publications.

### **Requirements/Qualifications:**

**Nationality:** Brazilian citizenship or permanent residency

**Education:** PhD in Immunology or related discipline

**Experience:** Doctoral and/or Post-Doctoral research.

### **Special Skills/Abilities:**

- Well versed in the field of immunology with emphasis in the area of inflammation, autoimmunity and innate lymphoid cells
- Able to work independently
- Strong hands on skills in multi-color flow cytometry, including intracellular and extracellular staining and data analysis are required
- Expertise in FACS-based cell sorting
- Expertise in *in vivo* and *in vitro* cell based assay
- Knowledge/handling of mouse and human blood T cell and B cell and innate lymphoid cells immuno-assays is required.
- Expertise in of immunoassays including ELISA and ELISPOT are required
- Experience in immunohistochemistry and immunofluorescence a plus

**Project Summary:**

Primary Sjögren's syndrome (pSS) is the most common chronic rheumatic disease after rheumatoid arthritis. The central pathogenic feature of pSS is the presence of lymphocytic infiltrates in the salivary and lacrimal glands, also called ectopic lymphoid structures (ELS), which are associated with hypo-secretion of saliva and tear fluids by the acinar cells, leading to conditions characterized by "dry mouth and dry eyes."

These lymphocytic infiltrates resemble lymph-node-like structures with discrete T, B and scattered dendritic cells, and in some instances, germinal centers are found in the salivary glands of pSS patients. This phenomenon known as lymphoid neogenesis, requires innate lymphoid cells (ILCs) as critical coordinators for the formation of ectopic lymphoid structures (ELS) in pSS.

The central focus of the postdoctoral proposal is deciphering the role of ILCs during the formation and maintenance of ELS in the glands of pSS. Our working hypothesis is that ILCs are resident within the salivary glands ELS and differentiate upon initiation of inflammatory processes.

The postdoctoral fellow will fully characterize ILC populations present in the salivary glands isolated from a SS animal model and in human pSS and will determine whether phenotypic and functional changes in ILCs influence T and B cell responses and correlate with disease progression. Moreover, using a combination of a depletion strategy and in vivo animal adoptive transfer studies, the postdoctoral fellow will determine the contribution of ILCs in the neogenesis of ELS and disease progression in the SS animal model.

**Application Instructions:**

Please note that these postdoctoral positions are advertised under an AZ/MedImmune partnership with Brazilian Science without Borders (SWB). If you are interested in any of these positions, please apply through the SWB website specifying the position number, [click here](#).