

**Research technician position (Research Assistant I) in Angiogenesis/Immunology/Wound healing at Harvard/MGH**

**Laboratory of Angiogenesis and Inflammation, Dr. Alexander G. Marneros,**

**Cutaneous Biology Research Center, Department of Dermatology,**

**Massachusetts General Hospital/Harvard Medical School, Boston**

Our laboratory is investigating molecular mechanisms involved in **wound healing, angiogenesis and inflammation**.

Project 1: We are investigating **molecular mechanisms that control macrophage activation and the role that activated macrophages play for inflammation and pathological angiogenesis**. We have established *in vitro* assays to identify regulators of macrophage polarization. In chemical screens we could identify pharmacologic inhibitors of alternative macrophage polarization (M2-type macrophages) and could show *in vivo* that these inhibitors can block macrophage-induced angiogenesis (***Cell Reports***, ***2013; JBC, 2014; Cell Reports 2021***). This project aims to define molecular pathways that are critical for macrophage polarization and that influence the ability of activated macrophages to induce pathological angiogenesis in conditions such as age-related macular degeneration, cancer or wound healing.

Project 2: We investigate **the role of proangiogenic factors for wound healing and age-related diseases**. We could show that the proangiogenic factor VEGF-A induces oxidative stress and NLRP3 inflammasome activation to promote age-related diseases ***(Cell Reports, 2013; FASEB J, 2014; EMBO Mol Med, 2016; FASEB J, 2018, eLife, 2020)*.** We use a variety of *in vivo* and *in vitro* approaches to investigate a **novel pathogenic link between VEGF-A and NLRP3 inflammasome activation**.

Project 3: We identified a novel pathway that is critical for epithelial differentiation, especially in the kidney. This AP-2b/KCTD1 pathway plays a critical role in kidney development and for renal function in the adult. We use mouse genetics to elucidate the role of this pathway for kidney functions ***(Dev Cell, 2020; Cell Reports, 2021)***.

In summary, our laboratory uses a large number of diverse experimental approaches (human genetics, mouse genetics, chemical screens, *in vitro* assays, cutting-edge imaging technology) to define novel mechanisms in angiogenesis, wound healing and inflammation. All of our projects have strong translational clinical relevance.

Our laboratory is embedded in a highly productive and well-equipped environment at the Cutaneous Biology Research Center of Massachusetts General Hospital/Harvard Medical School. Cutting-edge technologies are available within our Department and the MGH/Harvard research community.

Required profile:

- Passionate about science and commitment for ~1 year required

- prior laboratory experience, especially working with mice, preferred

- applicants must be reliable, well organized and have good log-keeping abilities

- Position start date: ASAP

lab website: https://www.massgeneral.org/dermatology/research/cutaneous-biology-research-center/faculty-labs/alexander-marneros-lab

Interested candidates should send the CV and references to Alexander G. Marneros, M.D., Ph.D.,

Email: **amarneros@mgh.harvard.edu**