

The Paul-Ehrlich-Institut (PEI), Federal Institute for Vaccines and Biomedicines, is a world-renowned scientific institute devoted to improving public health by ensuring the safety and efficacy of vaccines and biomedicines both in Germany and throughout the world. PEI carries out its mission through scientific research and medicinal product regulation. Internationally competitive research is carried out in the fields of virology, microbiology, allergology, immunology, hematology and cell and gene therapy.

In a DFG-funded collaborative project, the research group “Molecular Allergology” has open positions for:

2 PhD students (m/f/d)

Closing date: 04.11.2018 / Pay band: E 13 (65%) / Job reference: 318

We have recently shown that fusion proteins combining adjuvant activity of the Listeria-derived TLR5 ligand flagellin FlaA and different allergens into a single molecule can prevent both, IgE-sensitization and allergic diseases in preclinical mouse models (Schülke et al. JACI 2011, PLoS One 2014, Sci Rep 2017). The strong immune modulating properties of the FlaA-fusion proteins were shown to result from an enhanced metabolic activity of FlaA-fusion protein-stimulated DCs, resulting in increased anti-inflammatory IL-10 secretion, whereas pro-inflammatory cytokines were differentially regulated (Schülke et al. JACI 2017). Using state of the art immunological methods (knock out and reporter mice, FACS, ELISA, metabolic analysis, CRISPR/CAS-mediated gene silencing) and recombinant FlaA-derived mutant proteins we aim to dissect TLR5- and inflammasome activation.

Key responsibilities, investigation of

- Receptor-dependent/independent signaling mechanisms contributing to the immune modulating potential of FlaA-fusion proteins and (project I)
- The mechanisms of and interplay between FlaA-fusion protein activated cell metabolism and inflammasome activation both in vivo and in vitro (project II)

Essential criteria for applying

- MSc in life sciences or related area, with experience in: Cell culture and immunological methods (primary immune cell culture, ELISA, FACS), Recombinant DNA technology (including transfection/gene suppression) and protein expression/purification
- Willingness to work with mice
- Problem solving skills, self-reflected and result-oriented working ethics
- Team player and ability to supervise Master students
- High degree of motivation and enthusiasm for immunology/allergy research
- Excellent communication skills in English

You have the will to achieve and are happy to take the initiative to act. You have the ability to view a problem from different perspectives and think in different categories. You are able to structure your daily activities and set priorities without becoming distracted by details. You work in a goal and result orientated manner. You phrase messages clearly and to the point and are able to interpret the signals conveyed by others. You like working constructively in a team environment and proactively provide input for the team.

Our offer

- State-of-the art biochemical, molecular biological and cell culture laboratories (S2) with in-house access to mouse SPF2/breeding-, FACS/cell sorting-, MS-, protein purification/analytical- and microscopy facilities
- A stimulating international research environment
- Participation in the PEI-PhD program with in-house training courses and lectures on the regulation of vaccines/biomedicines. Possibility to attend basic and advanced immunology lectures and seminars at the TU Darmstadt.

The position is limited to 3 years. Disabled persons shall be given preference if their skills and qualifications are equivalent to those of non-disabled candidates. The Paul-Ehrlich-Institut is an equal opportunity employer.

Interested? Please send your application documents (cover letter, curriculum vitae, certificates) to us via the blue "Apply now" button.

For questions related to the job profile please contact Dr. Stephan Scheurer (email: Stephan.Scheurer@pei.de; phone: +49 6103 77-5310) or Dr. Stefan Schülke (email: Stefan.Schuelke@pei.de; phone: +49 6103 77-5209). For more information please check our [homepage](#).

For questions related to the application procedure please contact Simone Becker (email: Simone.Becker@pei.de; phone: +49 6103 77-1117).

We look forward to your application.

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Germany

Please always quote the job reference ID.
>> www.pei.de



The Paul-Ehrlich-Institut is an Agency of the German Federal Ministry of Health.