



## SAHLGRENKA AKADEMIN INSTITUTIONEN FÖR BIOMEDICIN

### Utlysning

**Project Title:** Analysis of vaccine induced immunity using novel analytical tools

**Project duration and dates:** 2022-06-20 to 2022-09-30 (holiday break 2022-07-11 to 2022-07-29)

**Application deadline:** 2022-06-14

**Amount:** 3750 SEK/week

#### **Project summary:**

To be able to develop and test new and improved vaccines, it is essential to establish robust and flexible immunological analysis methods, that not only indicate primary immune responses, but also reflect development of long-lived immunological memory. Ideally, the methods should be suitable for use in research laboratories as well as in clinical hospital laboratories. We have recently established several methods for analysis of T- and B-cell responses after vaccination using samples from healthy volunteers. We are currently evaluating if these assays can also be used to monitor vaccine-induced immunity in additional target groups for vaccination, such as patients treated with immunomodulating drugs.

The aim of this project is to evaluate vaccine induced cellular and humoral immune responses in different important target groups for vaccination, including lung cancer patients treated with check point inhibitors and transplantation patients, using recently established analytical methods.

Biobanked frozen samples (cells, cell culture supernatants and sera) from recent vaccine studies as well as fresh samples from volunteers participating in ongoing vaccine trials will be analyzed using different immunological methods, including ELISA and electrochemiluminescence assays. The project will focus on immune responses induced by COVID-19 vaccines, but responses to other vaccines may also be analyzed. The project is performed in collaboration between researchers at the Dept. of Microbiology and Immunology at the University of Gothenburg and several departments at the Sahlgrenska University hospital, including Dept. of Oncology, and Clinical Immunology.

By participating in this research project, the student will learn several immunological methods, how to handle clinical samples and how to analyse immunological results. The student will also gain knowledge of vaccine induced immunity, as well as how different types of immunomodulating treatments, such as checkpoint inhibitors and immunosuppressants, affect immune responses. The candidate is expected to be able to collaborate with technical personnel and researchers as well as work independently in the laboratory. It is important that

the candidate has basic knowledge in immunology and experience of practical laboratory work, including cell culture methods.

**Application:**

Applications should be emailed to [anna.lundgren@microbio.gu.se](mailto:anna.lundgren@microbio.gu.se).

The application should include; Motivation letter, CV including contact info.