GÖTEBORGS UNIVERSITET

SAHLGRENSKA AKADEMIN
INSTITUTIONEN FÖR BIOMEDICIN

Utlysning av stipendium

A stipend is announced in tumor virology at the Institute of Biomedicine, Department of Infectious Diseases, from 2022-10-31 through 2022-12-16

Project Title: Establishing Spontaneous Lymphoblastoid Cell Lines

Training plan

Background:

The genetic expression of Epstein-Barr Virus differs between non- and cancerous EBV-positive B-cells. Therefore it is important that potential drug candidates are tested on B-lymphocytes that have carcinogenic properties. Spontaneous lymphoblastoid cell lines can be utilized as they proliferate in the same way as cancer. EBV-infected B-cells are used to establish SP-LCLs as they have become immortalized by expressing, for instance IL-6 and IL-10. Furthermore, SP-LCLs do not undergo somatic hypermutation which strengthens the point of the B-cells becoming cancerous solely as a result of EBV-infection.

Methods:

Establishment of LCLs normally requires large amounts of blood. As this cannot be attained, smaller amounts of blood from EBV seropositive patients with high amounts of EBV will be used. Typically from patients that have undergone immunosuppressive treatment as a result of an organ transplant. PBMCs will be obtained from the patient's blood and grown in an RPMI medium. These will be treated with Cyclosporin A which restricts the function of T-cells as normally, T-lymphocytes will kill the EBV-infected B-cells. Half of the medium will continuously be exchanged twice a week; Cyclosporin A only the first 15-21 days of culturing.

Purpose:

To establish SP-LCLs in order to attain patient derived B-cell candidates for drug testing.

Time Plan:

First days will be used to study protocols and decide on a suitable method. 1 day will be used to extract PBMCs and establish cell culture. Thereafter, the B-cells will continuously be cultured for later experiments.

Learning outcome:

The student will be familiarized with different scientific methods and gain greater understanding of EBVs effects on B-cells.

The stipendiat will receive 2 500 SEK/week during the entire period.
Applications should be sent to Ka-Wei Tang (kawei.tang@gu.se) and must be received no later than 2022-09-09. There is no special application form.