

TCS/21/02 - Development of a novel anti-cancer Natural Killer cell based immunotherapy

Our Bodies contain many different immune cells that keep us healthy by fighting off diseases and stopping cancer cells from growing within our bodies. In order to do this, these cells have to know where to go within the body. This movement is controlled by chemicals called chemokines which act as a sort of map, allowing different parts of our bodies to have a “cellular address code”. When we get sick with an infection, or when cancerous cells begin to grow, these chemicals can change to let our cells know something has gone wrong. This will help immune cells move to the right place to do their jobs. However, sometimes our immune cells can get lost, and won't be able to follow the correct chemical path. When this happens the cells cannot get to where they need to, and they won't be able to prevent cancer growth to help make us feel better. We aim to hard-wire the address code for cancer into immune cells, so they can always follow the chemicals released by cancerous cells. This will allow immune cells to move into tumours and kill them before they can cause issues. This project will lead to the development of a new cell-based cancer treatment.