

A person wearing a white lab coat and gloves is using a pipette to transfer liquid into a small glass vial. The background is a blurred laboratory setting with various pieces of equipment. The image has a purple and pink color overlay.

## **A novel natural antibody-based therapy for liver cancers**

- Ongoing clinical trials demonstrate that treatment with natural anti-cancer antibodies provides a 67% increase in survival relative to standard therapy alone.

# CASE STUDY

## ● Innovation overview

Liver cancer is amongst the most common tumours worldwide, with approximately 800,000 new cases diagnosed each year. Most people are diagnosed with advanced disease, which typically carries a mere 9% five-year survival rate. There is an urgent need to identify new technologies to improve liver cancer treatment and improve patient outcomes.

University of the Highlands and Islands research recently identified a novel role for naturally occurring antibodies in treating liver and other cancers. Specifically, *in vitro* studies established that natural antibodies present in plasma isolated from healthy donors can deliver increased tumour killing activity.

This project will establish the clinical utility of screening anticancer antibodies in plasma and developing natural antibody-based therapies to treat advanced liver cancer. This involves screening healthy donor blood samples for the presence of natural anti-cancer antibodies. Once identified, samples with high levels of natural antibodies will be purified and pooled for use as a novel therapy in ongoing clinical trials taking place in China.

## ● Objectives

- Perform large scale blood sample screening and plasma enrichment for natural anti-cancer antibodies.
- Secure intellectual property licenses to enable natural antibody clinical trials.
- Evaluate and publish results of these studies as appropriate.

## ● Potential impacts and outcomes

This project has established a new type of cancer therapy based on the identification, purification and delivery of natural anti-cancer antibodies. Successful demonstration of this technology in ongoing trials would have significant clinical and economic implications.

## ● City-Region Deal deliverables

New product/service: novel plasma-based cancer therapy.

### ● External partner:

● QHB Ltd.



### ● University lead:

● Prof Jun Wei,

Professor of Genetics and Immunology

