

Stem cell research aids understanding of cancer

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(Phys.org) -- An international team of researchers led by renowned stem cell scientist Professor Martin Pera has discovered a novel marker that plays an important role in our understanding of how cancer develops in the liver, pancreas and oesophagus.

The study, published in the journal *Stem Cell*, adds to our understanding of the role of stem and next stage [progenitor cells](#) in tissue regeneration and in the diagnosis and treatment of [cancer](#).

While stem cells are known to reside in organs such as the liver and pancreas, they are difficult to isolate. The new findings show that an antibody developed by the team can be used to capture the stem cells.

Professor Pera, program leader for Stem Cells Australia and Chair of Stem Cell Sciences at the University of Melbourne, said the antibody was able to detect progenitor cells in disease states such as cirrhosis of the liver, and in cancers such as pancreatic adenocarcinoma and oesophageal carcinoma.

“By being able to identify these cells, we hope to be able to learn more about their role in tissue regeneration and in cancer especially in the diagnosis and treatment of pancreatic cancer,” he said.

“Cancers of the liver, [pancreas](#) and oesophagus are often very difficult to detect and challenging to treat.”

The large collaboration of scientists from around the world working on this study evolved over many years with research undertaken in Professor Pera's laboratories at the then Australian Stem Cell Centre and at the University of Southern California

Professor Pera and one of the co-authors on the paper, Dr Kouichi Hasegawa, were recently awarded an Australia-India Strategic Research Fund grant to continue their search for novel markers for [liver](#), pancreatic and gut stem cells. Dr Hasegawa, who recently undertook a three month sabbatical at [Stem Cells](#) Australia, holds positions at Kyoto University's Institute for Integrated Cell-Materials Sciences and at the Institute for Stem Cell Biology and Regenerative Medicine at the National Centre for Biological Sciences in Bangalore, India.

“This funding will support us to develop more antibodies that can be used to assist in the identification and prospective isolation of stem and progenitor cells in these tissues and lead to the development of novel diagnostic and therapeutic reagents,” said Professor Pera.

Provided by University of Melbourne

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