

Cell glue gives insights into cancer

17 July 2012

University of Queensland researchers have discovered an important step in how proteins glue cells together to form healthy tissues, a process that is often disturbed in diseases such as cancer and inflammation.

Professor Alpha Yap, Dr Aparna Ratheesh and Dr Guillermo Gomez from [UQ's Institute for Molecular Bioscience](#) (IMB) led a team that discovered the signals that prompt proteins to build the "glue" that binds cells into tissues.

"Cells are the basic building blocks of our body," Professor Yap said.

"Healthy tissues require their component cells to recognise and adhere to one another.

"This adhesion is achieved through specialised bundles of proteins whose formation is promoted by a signalling protein called Rho.

"You can think of this signal like the conductor of an orchestra, making sure that all the players work together."

Professor Yap and his team studied Rho and discovered a network of proteins that ensure Rho is activated at the correct time.

"Many of the proteins in this network have been implicated in cancer, meaning this discovery will provide valuable insights into how healthy tissues are disturbed in disease," Professor Yap said.

It follows the Yap laboratory's 2010 and 2011 discoveries of how adhesion proteins come unstuck inappropriately.

The study is published in the current edition of the international scientific journal *Nature Cell Biology*. Subscribers can access the paper at this address: <http://bit.ly/L2JWDD>

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Confocal microscopy was performed at the IMB's ACRF Cancer Biology Imaging Facility, established with the generous support of the Australian Cancer Research Foundation.

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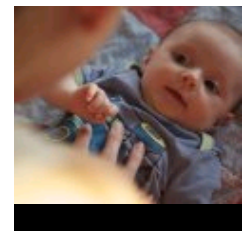
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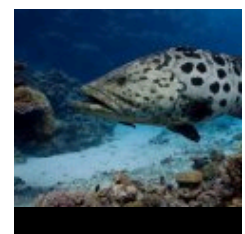
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