MEDIA RELEASE

30 July 2018

Safer anti-clotting drugs on the horizon for patients with thrombosis

New findings from a study into blood clots will help researchers to develop safer anti-clotting drugs for patients suffering from thrombosis. Thrombosis is the formation of a blood clot inside a blood vessel, and is the underlying cause of heart attacks and strokes. To put that into context, statistics show cardiovascular disease alone accounts for 29 per cent of all deaths in Australia.

A group of international researchers, led by three from the Centenary Institute in Sydney, set out to better understand how blood clots are formed through the clumping of platelets, and later dissolved in blood vessels.

Emerging evidence shows that a family of enzymes (known as *oxidoreductases*) are released from platelets and blood vessel linings in reaction to injury, and are essential for blood clotting to occur. However, scientists have so far been unable to determine the exact function of these enzymes in this process.

A research paper, published in the peer-reviewed scientific journal *eLife*, has progressed that understanding by showing how one particular type of *oxidoreductase*, ERp5, inhibits platelet clumping - thereby hindering blood clotting. It does so by breaking a chemical bond in a key receptor protein (known as an integrin) on the platelet surface.

Co-lead author, Dr Joyce Chiu from the ACRF Centenary Cancer Research Centre, believes the discovery is a major breakthrough in the field.

“Currently patients with thrombosis can be treated with anti-clotting therapeutics that target platelet integrins, but they can also cause life-threatening bleeding as a side effect. Our findings will help us develop safer anti-clotting drugs because we can now modulate integrin function via this chemical bond,” says Dr Chiu.

Read the full paper online: https://elifesciences.org/articles/34843

To arrange an interview, please contact: Centenary Institute Media and Communications Manager, Laura Parr, l.parr@centenary.org.au, 0435 530 537.

For more information about Centenary Institute, visit www.centenary.org.au