

Research may lead to new therapies for vascular disorders

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Auckland scientists have contributed to identifying a novel genetic pathway used in the stabilisation of blood vessels.

These discoveries may open up a new approach in the development of therapies to treat [vascular disorders](#).

After five years collaboration with the San Francisco-based company, Genentech, (owned by successful pharmaceutical corporation, Roche), a research team from the University of Auckland have just published a paper on the work, in *Blood*, the journal of the American Society for Hematology. It is considered the leading journal for reporting basic and applied haematology research.

"This has been a significant and productive collaboration for our group," says Professor Phil Crosier who leads this work in the University's Department of Molecular Medicine and Pathology. "It has been fantastic from our perspective, dealing with these talented and committed scientists from Genentech, and the culmination of this work being published in the journal *Blood*."

"The paper used a range of different scientific research models, where we contributed the zebrafish discoveries," says Professor Crosier. "The success of this collaboration lies in the intellectual input and high quality innovative real time [microscopic imaging](#) work undertaken by Dr Chris Hall, a Senior Research Fellow in our group."

"The original research question was looking at whether we can use zebrafish genetics to identify targets that we might be able to develop drugs around", says Dr Hall. That turned out to be one aspect of a much wider collaboration.

"Dr. Crosier's group carried out thorough in vivo functional analyses in zebrafish of many genes that we identified. We have high regard for their scientific rigor and expertise and are very impressed by the exquisite quality of their data", says Dr. Weilan Ye, the lead scientist of this project at Genentech.

"It has been richly rewarding for us, especially the way they value our expertise, paying tribute to both the quality and the precision of the work done, and the data in the final paper," says Professor Crosier.

The protein identified, known as RASIP1 (for Ras-interacting protein 1), was found to have a role in strengthening the connections between the cells that make up the blood vessels.

This discovery may open up a new opportunity to treat diseases in which blood vessels become very leaky, such as diabetic eye disease, sepsis and troublesome fluid accumulation around tumours. It may be possible to develop small molecules that can enhance the activity of RASIP1, which could be useful for the treatment of these disorders.

Provided by University of Auckland

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