

Exploring the causes of cancer

November 23 2015, by Anne Craig

Cells communicate with other cells in our bodies by sending and receiving signals. Cancer can occur when these signals are "dysregulated" and abnormal cells grow out of control.

In the Department of Pathology and Molecular Medicine, Queen's University researcher Mathieu Crupi studies the RET protein that is present on the surface of cells in your body and is responsible for receiving signals from outside a cell and passing on the messages within the cell. As part of a research team working with Dr. Lois Mulligan, he has identified important molecules that allow the RET protein to enter a cell and regulate its signals.

RET is a protein that plays an important role in kidney and nerve development and is also important in many human cancers including thyroid, breast and pancreas.

"Since RET has been shown to contribute to many different cancer types, understanding how active RET moves into the cell and is 'turned off' in [normal cells](#) may in future provide us with therapeutic opportunities to control its function in [cancer cells](#)," says Mr. Crupi.

"The movement of proteins from the cell surface into compartments within the cell is an important process regulating the duration and magnitude of the signals that cause cells to grow, mature or survive," says Mr. Crupi. "These movements are the key steps in controlling RET's activity and, in the future, provide answers to controlling the protein's function in cancer [cells](#)."

His research was supported by the Cancer Research Society and was published in a recent edition of *Traffic*.

More information: *Traffic*, onlinelibrary.wiley.com/doi/10.1111/tra.12315/abstract

Provided by Queen's University

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