

Scientists discover compound that kills lymphoma cells

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An international research team co-led by the Ontario Cancer Institute (OCI) has discovered a compound that kills specific lymphoma cells - a discovery that will accelerate developing targeted drugs to fight the most common form of non-Hodgkins lymphoma.

The research findings, published online today in [Cancer Cell](#), show how the scientists used a [chemical compound](#) to block [protein](#) BCL6, the cancer-causing culprit in about half of all non-Hodgkins lymphoma cases, the fifth most common type of cancer in Canadians.

Co-principal investigator Dr. Gilbert Privé, an OCI senior scientist who specializes in analyzing the structure and function of cancer-related proteins, says: "We have identified a new avenue for drug development. It is exciting because until now, the prevailing wisdom has been that cancer proteins such as BCL6 would not respond in this way to chemical manipulation. We have proven otherwise."

The scientists began their quest using three-dimensional crystallography and computer-aided drug design to filter over one million potential compounds to about 100 that merited further research. They continued narrowing the field, down to 10 and, eventually, to the one compound that proved successful. In lab experiments, there was even better news - not only did the compound kill [lymphoma](#) cells, it was also non-toxic.

Dr. Privé explains further: "If you picture cell proteins as a circuit board, we have found a way to short-circuit a defective connection without

destroying the entire board. This is the potential of targeted therapy - to kill specific cancer cells and leave healthy cells untouched."

More information: DOI:0.1016/j.ccr.2009.12.050

Provided by University Health Network

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