

January 12, 2012

University of Toronto research explains how cancer drug Elesclomol works

Discovery could enable better therapies for myeloid leukemia and ovarian cancer

TORONTO, Canada—Research from the University of Toronto and Synta Pharmaceuticals published in the scientific journal [PLoS ONE](#) details how the cancer drug Elesclomol targets cancer cell metabolism. The research could lead to safer and more effective cancer therapies with the drug, the molecular workings of which were previously unknown.

“Elesclomol has been shown to work by increasing the levels of reactive oxygen species [molecules containing oxygen] to untenable levels, causing cancer cell death. However, details of how this occurs were unclear,” said Prof. Corey Nislow, a professor in U of T’s Department of Molecular Genetics. “In clinical terms, our improved understanding of how Elesclomol works has allowed Synta, the drug’s developer, to better select patients who will respond to this novel therapy in their on-going clinical trials,” said Prof. Nislow.

Clinical researchers are testing Elesclomol in both solid tumor and blood cancers. This work includes a study in combination with paclitaxel in ovarian cancer, and a single-agent study in acute myeloid leukemia at the University Health Network’s Princess Margaret Hospital.

The researchers used an automated drug interrogation platform developed at U of T by the labs of Prof. Nislow and Prof. Guri Giaever, who is also a professor in the Department of Molecular Genetics. The platform relies on the model organism baker’s yeast, and allows for the prioritized ranking of all genes according to their response to drug treatment.

Read the PLoS ONE paper [here](#).

Story adapted from a media release by Synta Pharmaceuticals.