

PBS-Bio uncovers how Unibioscreen drug kills cancer

March 9 2011

Predictive Biomarker Sciences (PBS-Bio) has uncovered how the experimental drug UNBS1450, produced by Unibioscreen, kills cancer cells.

Previous studies have shown that over-activity of a gene known as MCL1 can cause [cancer cells](#) to grow out of control. PBS-Bio, which is owned in part by the non-profit, Phoenix-based Translational Genomics Research Institute (TGen), co-discovered that UNBS1450 effectively shuts off the gene and induces apoptosis, the cancer cell's normal process of cellular death.

"It's a very nice candidate drug," said Dr. Michael Bittner, a biologist and Principal Investigator of the PBS-Bio technology. Dr. Bittner said UNBS1450 is effective against MCL1 in very low dosages, which means it could potentially be delivered to patients with minimal side effects and low toxicity. MCL1 is prevalent in leukemia, non-small-cell [lung cancer](#), as well as cancers of the prostate and pancreas.

"The presence of MCL1 can be used as a stratification, or predictive, [biomarker](#) to help determine which cancer patients are most likely to respond to UNBS1450," said Dr. Edward Smith, co-founder and CEO of PBS-Bio. This would be particularly beneficial, Dr. Smith said, in selecting patients to participate in clinical trials of UNBS1450, and ultimately in helping physicians decide who should be placed on the drug once it is approved for general use.

Steve Weitman, Chief Medical Officer for Unibioscreen, based in Brussels, Belgium, said Unibioscreen has high hopes for the drug UNBS1450.

"Thanks to the critical assistance we received from PBS-Bio, we at Unibioscreen feel confident now that we have a potential biomarker that can be used to facilitate the development of UNBS1450," Weitman said.

In October, Unibioscreen announced it had entered into an agreement with PBS-Bio to get a more in depth understanding of the mechanisms involved in UNBS1450 as a means of optimizing cancer-patient treatment.

To jump-start drug development, PBS-Bio's analysis helps pharmaceutical companies better understand how their drugs work, and identifies biomarkers that can help predict which patients will respond to treatment.

PBS-Bio is providing drug companies with unique real-time looks at how new therapeutics actually work over time within cellular pathways — the so-called mechanisms of action.

UNBS1450 has been in Phase I clinical trials at hospitals in Belgium and the Netherlands. The drug is a hemi-synthetic derivative of a compound identified by Unibioscreen in the root bark of a plant called *Calotropis procera*. Pre-clinical tests showed that UNBS1450 is very effective against various tumor types with no adverse side effects.

Provided by The Translational Genomics Research Institute

Citation: PBS-Bio uncovers how Unibioscreen drug kills cancer (2011, March 9) retrieved 23 April 2024 from

<https://medicalxpress.com/news/2011-03-pbs-bio-uncovers-unibioscreen-drug-cancer.html>

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