# Second Ohio State cancer drug begins clinical trials testing

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For the second time within a year, an experimental drug invented by cancer researchers at The Ohio State University Comprehensive Cancer Center - Arthur G. James Cancer Hospital and Richard J. Solove Research Institute (OSUCCC-James) is being tested on patients in a clinical trial.

This week, adult patients began receiving doses of the potentially groundbreaking drug, which is designed to treat relapsed or treatment-resistant multiple myeloma, chronic lymphocytic leukemia or lymphoma, said Dr. John Byrd, associate director of clinical translational research at OSUCCC-James and a leukemia specialist who initiated the drug's development with Ching-Shih Chen, an Ohio State cancer researcher and medicinal chemist.

The new phase I/IIa clinical trial will assess the safety and initial evidence of activity of the oral drug AR-42, which belongs to a new class of drugs called histone deacetylase (HDAC) inhibitors - compounds designed to reactivate genes that normally protect against cancer but are turned off by the cancer process. Ohio State is the only site worldwide accepting patients to the clinical trial, said Byrd.

"Early tests in cancer cell models showed that AR-42 is 10,000 fold more potent than the starting/parent agent," said Chen, a professor of pharmacy, urology and internal medicine who holds the Lucius A. Wing chair of cancer research.

In 2003, Byrd asked Chen to try to improve the potency of a short-chain fatty acid known to have a weak inhibitory effect against cancer growth. Chen worked with cancer center and pharmacy colleagues at Ohio State to develop the drug originally called OSU-HDAC42, a broad spectrum histone and non-histone deacetylation inhibitor (pan-DAC).

The agent has been licensed to the biopharmaceutical company Arno Therapeutics, Inc., for clinical development.

"It is exciting to see this very potent broad class I/II HDAC inhibitor enter the clinic for treatment of blood cancers and we look forward to generating meaningful clinical results from in this Phase I/IIa study," said Byrd. "We are incredibly grateful to organizations that have supported this effort to bring this drug forward to our blood cancer patients.

Dr. Michael Caligiuri, director of Ohio State's Comprehensive Cancer Center and chief executive officer of the James Cancer Hospital and Solove Research Institute, praised the collaborative efforts of Ohio State researchers who worked more than 7 years to develop this drug.

"We are encouraged by its preclinical activity, and feel that this molecule could have meaningful clinical implications in a variety of cancers," said Caligiuri.

Dr. Michael Grever, chairman of the department of internal medicine at Ohio State and co-leader of the Experimental Therapeutics program at OSUCCC-James, was instrumental in moving this experimental agent from bench to bedside.

Provided by Ohio State University Medical Center