

# Tapeworm Drug May Hold Promise For Colon Cancer, Future Research

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(PhysOrg.com) -- Duke University Medical Center researchers have discovered an already-FDA-approved compound that can effectively “silence” a cell receptor shown to interfere with chemotherapy.

The findings about this compound, published in the Nov. 3 issue of *Biochemistry* journal, might prove valuable to patients and clinicians, who may benefit if there is a demonstrated boost to chemotherapy. Researchers also can use the compound to manipulate the receptor to learn more about a common cell replenishing pathway, called the [Wnt pathway](#), which requires the receptor for normal activities and can go wrong in [cancer](#) cases.

The researchers had a choice: to screen libraries of several hundred thousand biochemical compounds or to use a library of about 1,200 FDA approved or biologically active compounds.

“We decided to take the less expensive route of screening FDA approved drugs, and fortunately, we found 26 compounds that seemed to meet our goal, but only one that truly worked with the Frizzled receptor,” said Wei Chen, Ph.D., Assistant Professor of the Department of Medicine at Duke. “The goal was to drive the Frizzled 1 receptor from the outer membrane to the inside of the cell,” which effectively inactivated the receptor.

The effective compound, niclosamide, is currently approved for use against tapeworm infection. But some [colon cancer](#) patients, for

example, have a Wnt pathway that is overactivated and may benefit from the “quieting” effects of niclosamide, which blocks the receptor in the Wnt pathway.

“The paper provides a rationale for clinicians to investigate using niclosamide for a new purpose,” Dr. Chen said. “Based on our findings, one oncologist at Duke is writing protocols for a phase 1 (safety) clinical trial to treat colon cancer patients with the intention of bringing our laboratory findings to the patient’s bedside.”

Chen says he is proud of the work, which is “truly translational science.”

“I am a basic scientist working with cell receptors, we have a medicinal chemist in our laboratory and one of our collaborators is Dr. H. Kim Lyerly, a professor of surgery, who is a researcher in gene- and immune-based therapies for cancer, as well as director of the Duke Comprehensive Cancer Center,” said Chen. “This type of diverse collaboration lets me shepherd a finding more rapidly from the laboratory to the clinic.”

Provided by Duke University Medical Center ([news](#) : [web](#))

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