

Researchers develop new platinum-based anti-tumor compound

February 11 2009

Researchers in the Department of Chemistry at Wake Forest University in collaboration with colleagues at the Wake Forest University Health Sciences Comprehensive Cancer Center have developed a new class of platinum-based anti-tumor drugs that animal studies have shown to be 10 times more effective than current treatments in destroying certain types of lung cancer cells.

The results were published in the December 11 issue of the *Journal of Medicinal Chemistry* and highlighted in Science-Business eXchange (SciBX), produced by the publisher of the journal Nature. They suggest a new approach to fighting non-small cell lung cancer, which accounts for more than three-quarters of all lung cancers. Lung cancer is the leading cause of cancer-related deaths in both men and women. Less than a third of non-small cell lung cancer patients respond to traditional platinum-based therapies, and those who do respond have a median survival of less than a year.

"We are able to slow the growth of this cancer substantially in mice," said principal investigator Ulrich Bierbach, Z. Smith Reynolds Foundation Fellow and associate professor of chemistry at Wake Forest. "That is very good news, since this is such a rapidly growing, intractable type of cancer."

The new compound's potency derives from its ability to rapidly bind with and disable a tumor cell's DNA before the cell's natural repair mechanisms are activated. That repair process causes drug resistance,

which reduces the effectiveness of currently used platinum-based drugs.

Bierbach has focused his research efforts since 1992 on finding ways to overcome the resistance problems inherent in platinum-based drugs. He joined the Wake Forest faculty in 1999, and since 2001, has led a research team that included participation by eight graduate students and more than 30 undergraduate students. The recent paper marks the 25th he has published on the topic.

"If this ends up in clinical trials in the next few years, that will fulfill a dream of mine," Bierbach said.

His research efforts will now be directed toward finding ways to boost the tumor-killing potency of the new compounds while reducing harmful side effects.

Source: Wake Forest University

Citation: Researchers develop new platinum-based anti-tumor compound (2009, February 11)
retrieved 26 April 2024 from

<https://phys.org/news/2009-02-platinum-based-anti-tumor-compound.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.