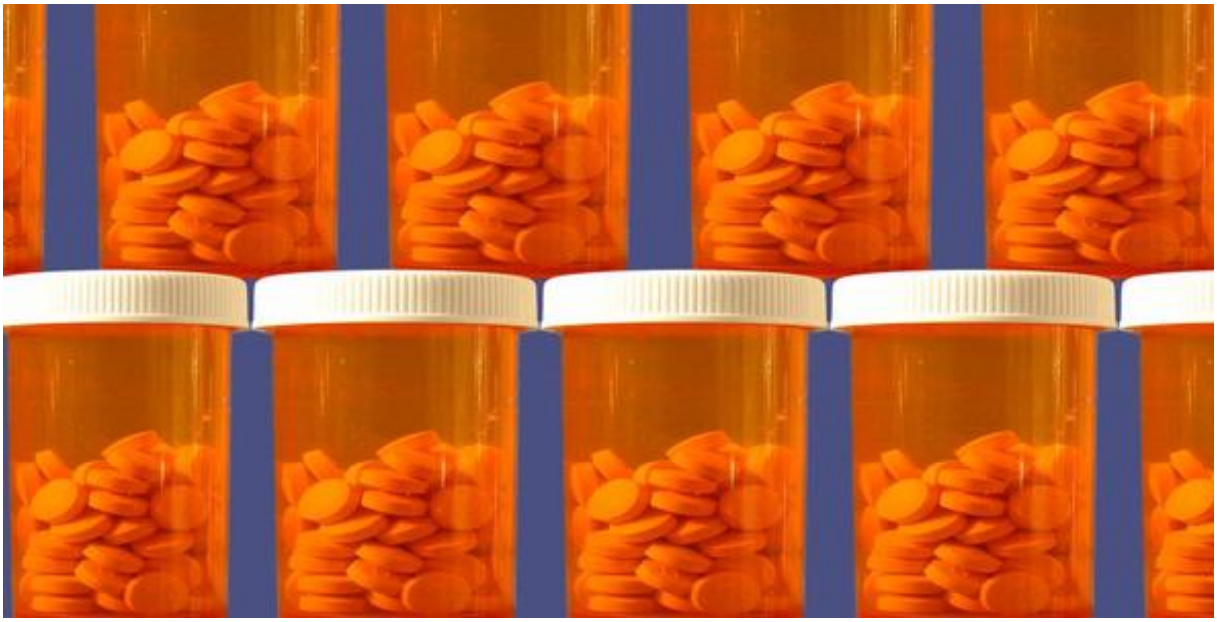
THE UNIVERSITY of NORTH CAROLINA at CHAPEL HILL

Pharmaceutical Therapeutics

Novel Tylophorine Analogs as a New Class of Anti-tumor Agents



Tylophorine and its analogs are phenanthroindolizidine alkaloids, a small group of alkaloids known for their profound cytotoxic activity. A tylophorine, tylocrebrine, was in clinical trials previously, but those studies were discontinued due to CNS toxicity. A number of novel analogs have been synthesized using tylophorine as a template. These analogs have shown potent anti-proliferative activity in A459 human lung adenocarcinoma cell lines. These more polar analogs are not predicted to cross the blood-brain barrier, thus reducing concern over CNS toxicity seen in parent compound.

Benefits

• Efficacious: Lead compound inhibits A549 lung tumor xenograft growth in SCID mice.

• Safety: Lead compound does not cause weight loss in SCID mice

• Polarity: More polar analogs are not predicted to cross the blood-brain barrier, thus reducing concern over CNS toxicity seen in parent compound.

• Tylophorine: Parent tylophorine molecule has demonstrated efficacy against

carolina blue™ opportunity

multidrug resistant tumor cells both in vitro and in vivo in tumor xenographs.

For More Information

If you would like more information about this technology or UNC - Chapel Hill's technology transfer program, please contact:

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The Technology

Tylophorine and its analogs are phenanthroindolizidine alkaloids, a small group of alkaloids known for their profound cytotoxic activity. A tylophorine, tylocrebrine, was in clinical trials previously, but those studies were discontinued due to CNS toxicity. Dr. Kuo-Hsiung Lee has synthesized a number of novel analogs, using tylophorine as a template. These analogs have shown potent anti-proliferative activity in A459 human lung xenograft growth in SCID mice. Novel analogs are not anticipated to cross the blood-brain barrier, thus reducing concern over CNS toxicity that has been seen in the parent compound and appears to avoid the common problem of drug resistance in current chemotherapy regimens.

- Chemotherapy

Opportunity

UNC's Office of Technology Development seeks to stimulate development and commercial use of UNC-developed technologies. UNC is flexible in its agreements, and opportunities exist for joint development, academic or commercial licensing (exclusive, non-exclusive, and field-of-use), publishing, or other mutually beneficial relationships. For this technology, the following intellectual property has been published: WO2007081540