Synthesis of Novel Anticancer Agent Peloruside A

Track Code: 65001

Categories:
- Biotechnology
- Pharmaceuticals

Keywords:
- Biotechnology
- Cancer
- Drug Development
- Pharmaceuticals
- Taxol

Peloruside A (1), a 16-membered macrolide antitumor agent, was first isolated by L. West and P. Northcote from the New Zealand marine sponge, Mycale hentscheli. It has shown potent antitumor activity against resistant cell lines, such as P388 murine leukemia cells with an IC50 value of 10 ng/mL. Peloruside A is a microtubule stabilizing agent operating with a similar mechanism to the most widely used anticancer agent, taxol, and has shown a synergistic effect with taxol itself.

Researchers at Purdue University have developed a process for synthetic production of Peloruside A, which is amenable to the development of analogs and derivatives of this important molecule. This synthetic strategy opens the possibility of creating unnatural analogs of Peloruside A with improved potency, bioavailability, and other pharmacokinetic properties. These developments will facilitate drug discovery for cancer treatment.

Advantages:
- Novel synthetic pathway to highly potent cancer drug
- Synthetic process amenable to drug discovery of improved therapeutics

Potential Applications:
- Medical/Healthcare
- Pharmaceuticals
- Drug Development
- Cancer Treatment

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**Intellectual Property:**

**Application Date:** July 8, 2010  
**Type:** Utility Patent  
**Country of Filing:** United States  
**Patent Number:** 8,580,975  
**Issue Date:** November 12, 2013

**Application Date:** January 9, 2009  
**Type:** PCT-Patent  
**Country of Filing:** WO  
**Patent Number:** (None)  
**Issue Date:** (None)

**Application Date:** January 9, 2009  
**Type:** NATL-Patent  
**Country of Filing:** European Patent  
**Patent Number:** (None)  
**Issue Date:** (None)

**Application Date:** January 11, 2008  
**Type:** Provisional-Patent  
**Country of Filing:** United States  
**Patent Number:** (None)  
**Issue Date:** (None)

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