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Synthesis of Pancratistatin

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Inventors

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Invention Description

In the early 80s the collection of *Pancratium* found a very potent anticancer constituent, pancratistatin. Subsequently, the U.S. National Cancer Institute initiated preclinical development of pancratistatin due to its high level of *in vitro* and *in vivo* cancer cell growth inhibitory. Unfortunately, the preclinical development slowed by severe supply constraints and by its very low aqueous solubility properties. There is an urgent need to further research and explore any potential anticancer drugs.

Researchers at Arizona State University have developed a successful synthesis of pancratistatin from narciclasine in 3.6% overall yield. Narciclasine has been the most attractive precursor because of its availability in practical quantities. There also has been extensive in depth research done on narciclasine and its potential synthesis.

Once pancratistatin was converted, even minor structural modifications led to decreased cancer cell growth activity. With further development and modifications pancratistatin could be a primary tool in curing cancer.

Potential Applications

- Antineoplastic agents
- Anticancer drugs

Benefits and Advantages

- Simple to isolate narciclasine in large amounts from plants
- Available orally and by injection
- Inhibition of cancer growth from a renewable source

Intellectual Property Status:

Patent Pending

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