Non-Natural Sphingolipid Analogues in Anticancer Therapy (Yissum)

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Show better therapeutic activity

Categories	Formulation, Oncology / Cancer
Development Stage	Early stages – cell culture tests
Patent Status	Filed in the US
Market	The global market for cancer drugs is expected to grow 12-15% annually through 2012, to $75 to 80 billion, twice as fast as the market for all other pharmaceuticals.

Highlights

- Ovarian cancer is the fifth leading cause of death from cancer in women and the leading cause of death from gynecological cancers. While ovarian tumors initially respond very well to platinum-based chemotherapy, eventually 75 percent of advanced-stage ovarian-cancer patients develop resistance to standard treatment with very high mortality rates.
- Synthetic, non-natural sphingolipid analogs inhibit the biosynthesis of cellular sphingolipids, elevate ceramide and induce apoptotic cell death, showing promise in potential applications as a treatment for leukemia and other malignancies.
- These analogs belong to a new generation of anti-cancer drugs that selectively induce apoptosis to tumorigenic cells.
- The compounds can be used as anti cancer drugs alone or in combination with other drugs.
- The analogs were effective against colon and non small cell lung carcinomas. They also exhibit much more efficient activity than cis-Pt against both regular and resistant ovarian cancer.

Our Innovation

- Novel non-natural sphingolipid analogs which have shown better therapeutic activity, particularly anticancer activity, in comparison to cis-Pt, in various cancer cell lines such as colon, lung, and ovarian cancer. These compounds belong to a different family of derivatives from previous compounds, more closely resembling natural sphingolipids.

Key Features

- These new compounds are easier to synthesize than previous ones.
- They are expected to be highly effective while inducing fewer side effects than current anti-cancer drugs.

Development Milestones

- Funding is sought to take these compounds on to the next stage – testing in animals

The Opportunity

- Applications in colon, lung and ovarian cancer

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