Method for Predicting and Detecting Tumor Metastasis

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Technology description

Summary

Detecting cancer prior to metastasis greatly increases the efficacy of treatment and the chances of patient survival. Although numerous biomarkers have been reported to identify aggressive tumor types and predict prognosis, each biomarker is specific for a particular type of cancer, and no universal marker that can predict metastasis in a number of cancers have been identified. In addition, due to a lack of reliability, several markers are typically required to determine the prognosis and course of therapy.
The inventors discovered a novel CPE splice variant designated CPE-deltaN and found its expression levels increase according to the presence of cancer and metastasis wherein this variant is upregulated in tumors and further increased in metastatic cancer. This data has been demonstrated both in vitro and in vivo experiments and in liver, breast, prostate, colon, and head and neck cancers. Metastatic liver cells treated with CPE-deltaN siRNA reversed the cells from being metastatic and arrested cells from further metastasis. Thus, this novel CPE isoform is a biomarker for predicting metastasis and its inhibitors have an enormous potential to increase patient survival.
Global cancer market is worth more than eight percent of total global pharmaceutical sales. Cancer industry is predicted to expand to $85.3 billion by 2010

Application area

Method to prognose multiple types of cancer and determine likelihood of metastasis
Method to prevent and treat cancer with CPE inhibitors
Method to determine the stage of cancer development
CPE-deltaN pharmaceutical compositions

Institution

NIH - National Institutes of Health

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