Therapeutics & Vaccines

Inhibiting Metadherin/SND1 Interaction to Treat Cancer

View U.S. Patent No. 10,357,539 in PDF format.

WARF: P140424US02

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The Wisconsin Alumni Research Foundation (WARF) is seeking commercial partners interested in developing a method to fight tumors using novel peptides that block metadherin and SND1 protein interaction.

Overview

Metadherin (MTDH; also called AEG1 or LYRIC) is a pro-metastasis gene implicated in many types of cancer. The gene is overexpressed in more than 40 percent of primary tumors and is linked to breast cancer relapse and poor prognoses for patients.

What drives this gene and how it plays a role in tumor development remain unclear, but that activity could be a fruitful target for new therapies.

The Invention

UW–Madison researchers and collaborators have developed a method to fight tumor growth and metastasis using novel peptides that inhibit interaction between MTDH and a protein called SND1.

The researchers found that MTDH-SND1 protein interaction is important for the expansion and function of prostate tumors as well as luminal and basal breast tumor initiating cells. Their work provides novel peptides that target this protein complex to help control tumor initiation, recurrence and metastasis by combating tumor initiating cells, with minimal impact on normal tissues.

Applications

- Peptides for oncology therapeutics
- Possible cancer targets include brain tumors, leukemia, breast cancer, bone and joint cancer, lung cancer, melanoma and prostate cancer.

Key Benefits

- Potential new weapon against cancer
- Could help control tumor initiating cells with minimal side effects
- May be well tolerated in cancer patients
- Could provide specific, effective therapy to inhibit tumor activity in many cancers

Stage of Development

- Metadherin peptides were tested and found to inhibit tumorigenesis in mouse models

Additional Information

For More Information About the Inventors

- Yongna Xing

Related Intellectual Property

- View Divisional Patent in PDF format.

Publications

- Guo F., Wan L., Zheng A., Stanevich V., Wei Y., Satyshur K. A., Shen M., Lee W., Kang Y. and Xing Y. 2014. Structural Insights into the Tumor-Promoting Function of the MTDH-SND1 Complex. Cell Rep. 8, 1704-1713.

Tech Fields

- Therapeutics & Vaccines : Oncology

For current licensing status, please contact Rafael Diaz at rdiaz@warf.org or 608-960-9847