Synstatin "SSTN_{EGFR}" Fights Cancer

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WARF: P120300US03

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The Wisconsin Alumni Research Foundation (WARF) is seeking commercial partners interested in developing a peptide that can inhibit and kill tumors by blocking a key receptor interaction.

OVERVIEW

EGFR (epidermal growth factor receptor) exists on the cell surface and is a member of a family of closely related receptor tyrosine kinases. Overexpression of EGFR can result in cancer. In particular, EGFR plays a major role in lung cancer, triple negative breast cancer and head and neck carcinoma.

It is known that EGFR couples with another type of receptor, α6β4 integrin, found on cell surfaces. The two receptors form a signaling complex that drives tumor growth, invasion and survival. How they interact and start this process has remained mysterious until now. The answer may lead to groundbreaking new cancer treatments.

THE INVENTION

A UW–Madison researcher has discovered that the EGFR/α6β4 assembly is mediated by the syndecan family of matrix receptors. Specifically, syndecan-4 (Sdc4) links the two receptors together and helps tumor cells grow and survive.

To obstruct this process, the researcher has created a recombinant peptide that competes with Sdc4 for binding partners. The new peptide is derived from Sdc4 but is harmless. It is called SSTN_{EGFR}. It can be administered as a drug and combined with cancer patients’ other therapies.

APPLICATIONS

- Treating carcinoma, myeloma, melanoma, schwannoma, malignant endothelial cells or glioma
- May help scarring and other pathological wound healing
KEY BENEFITS

• Targets growth, survival and invasion of tumor cells
• May target tumor angiogenesis
• Does not hurt normal cells

ADDITIONAL INFORMATION

Related Technologies
WARF reference number P120259US03 describes another cancer-fighting synstatin, SSTNHER2, that blocks a related syndecan-mediated signaling complex.

Publications


Tech Fields
Pharmaceuticals & Vitamin D - Oncology & hematology

CONTACT INFORMATION

For current licensing status, please contact Andy DeTienne at adetienne@warf.org or 608-960-9857.