PEPTIDE COMPOUNDS DERIVED FROM MELANOTRANSFERRIN AS A TREATMENT FOR SOLID CANCERS

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BACKGROUND

Inhibition of abnormal angiogenesis and cell migration may provide therapeutic strategies for the treatment of angiogenesis-dependant disorders such as cancers. Melanotransferrin (MTF or p97) has been identified as a new target in cancer. It has been reported that this membrane-bound glycoprotein acts as a binding site for plasminogen on the cell surface and enhances its activation into plasmin, a protease playing a crucial role in tumor progression and tumor invasion. A role for the MTF soluble form (sMTF) in angiogenesis and cell migration has also been suggested to occur through its interaction with the urokinase-type plasminogen activator system (uPA).

TECHNOLOGY

The present invention refers to peptide compounds derived from the human sMTF as novel regulators of plasminogen activation and their use for regulating cell migration, plasminolysis and angiogenesis to treat solid cancers. The peptide candidates has a strong ability to stimulate plasminogen activation by the uPA, to inhibit cell migration in endothelial HMEC-1 and lung carcinoma NCI-H460 xenograft models, to inhibit *in vivo* angiogenesis and tumor growth in mice (Fig. 1) without showing toxicity.

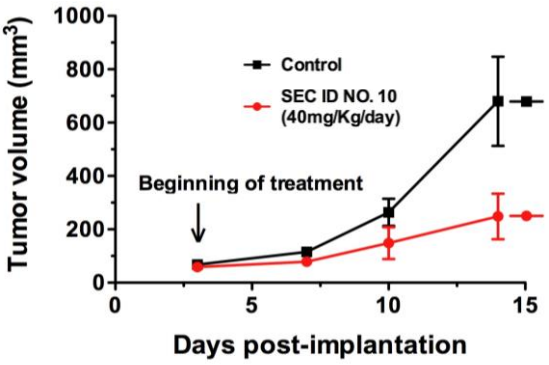

Figure 1: Effect of sMTF peptide seq. no 10 on human NCI-H460 lung carcinoma tumor xenograft growth in nude mice.

COMPETITIVE ADVANTAGES

- Peptides are easy to produce by chemical synthesis (vs entire protein)
- High stability and low toxicity
- Dual action (angiogenesis and migration)
- High efficacy on difficult to treat cancers (glioblastoma and lung carcinoma)

APPLICATIONS

Glioblastoma, lung cancer, melanoma and all solid tumors (90% of all cancers).

TECHNOLOGY DEVELOPMENTAL STAGE

In vitro and *in vivo* results for lead peptide candidates and benchmarked against Avastin.

PATENT STATUS

US patent issued 9,334,314
CAN, EU, Mexico, Brazil, South Korea pending application

BUSINESS OPPORTUNITY

- Out licensing or partnering opportunities available.
- Highly experimented and multidisciplinary research team (oncology, drug delivery peptide chemist) with cutting-edge lab facilities.

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