Molecular Targeting Technologies, Inc.

Development Pipeline

CLASS: Therapeutic Agent

NAME: ^{131}I SapC-DOPS

INDICATION: glioblastoma (brain cancer)

USE: Targeted radio- and biotherapy of glioblastoma.

TECHNOLOGY: SapC-DOPS, a nanovesicle composed of saposin C (SapC) coupled to dioleoylphosphatidylserine (DOPS), has proven tumor targeting properties (crossing the blood-brain tumor barrier and binding the lipid tumor marker, extracellular phosphatidylserine (PS)). It also exhibits antitumor activities in preclinical glioblastoma (GBM) models.

Binding a radiotherapeutic iodine to SapC-DOPS nanovesicles provides a novel agent with potentially superior efficacy for targeted radionuclide therapy (TRT) of glioblastomas (GBMs).

UNMET NEED: GBMs are among the most aggressive and intractable cancers. Current average GBM survival is <2 years. Treatment options are limited, and standard therapies with radiation and/or chemotherapy provide only modest survival improvement with potential deleterious effects. There is also a need to treat residual disease and micrometastatic spread of tumor cells.

PROOF OF CONCEPT: This approach is backed by extensive, published and unpublished, preliminary data, the FDA Orphan Drug designation and an ongoing phase I clinical trial of SapC-DOPS drug.

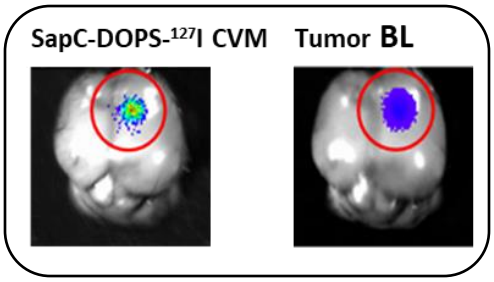
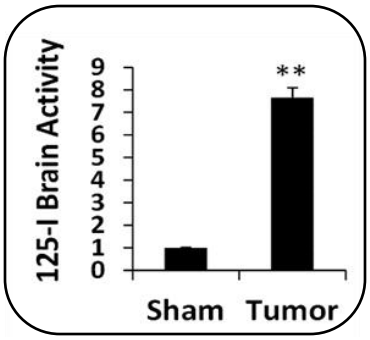


Figure 1. GBM targeting by SapC-DOPS-^{127}I·CVM. A mouse bearing a human GBM xenograft (U87△EGFR-Luc cells) was injected (tail vein) with SapC-DOPS conjugated with cold-labeled, (^{127}I) phenolic CVM. 24 h later tumor bioluminescence (BL) and CVM fluorescence were assessed in the excised brain.

Figure 2. SapC-DOPS-^{125}I·CVM selectively accumulates in GBM. Sham-operated mice and GBM-bearing (Tumor) mice (n=2/group) were given a single tail vein injection with SapC-DOPS-^{125}I·CVM (5.5 +/- 0.2 μCi). Brain ^{125}I radioactivity was measured with a gamma counter 6h after injection. Normalized activity shows preferential tumor uptake.



STAGE OF DEVELOPMENT: Preclinical. Seeking partner.

PRINCIPAL COLLABORATOR: University of Cincinnati

IP: pending

FUNDING: Obtained funding from NCI.

OWNERSHIP: MTTI is establishing an option agreement with University of Cincinnati