492 Methods to Treat Malignant Pediatric Brain Tumors Using Anti-CD47 Agents

Asset Overview

Product Type	Method
Indication	Oncology
Current Stage	Preclinical
Target(MoA)	Blockage of CD47-SIRPα interaction
Brief Description	• Developed methods of using and administering anti-CD47 agents to treat malignant pediatric brain tumors • Direct delivery to the cerebrospinal fluid by an implanted continuous delivery device • Developed xenograft animal models to test the toxicity together by engrafting with both normal human neural cells and brain cancer cells • This technology provides new methods for treating malignant pediatric brain tumors and enables more effective preclinical testing of new therapeutics
Organization	Stanford University

Differentiation

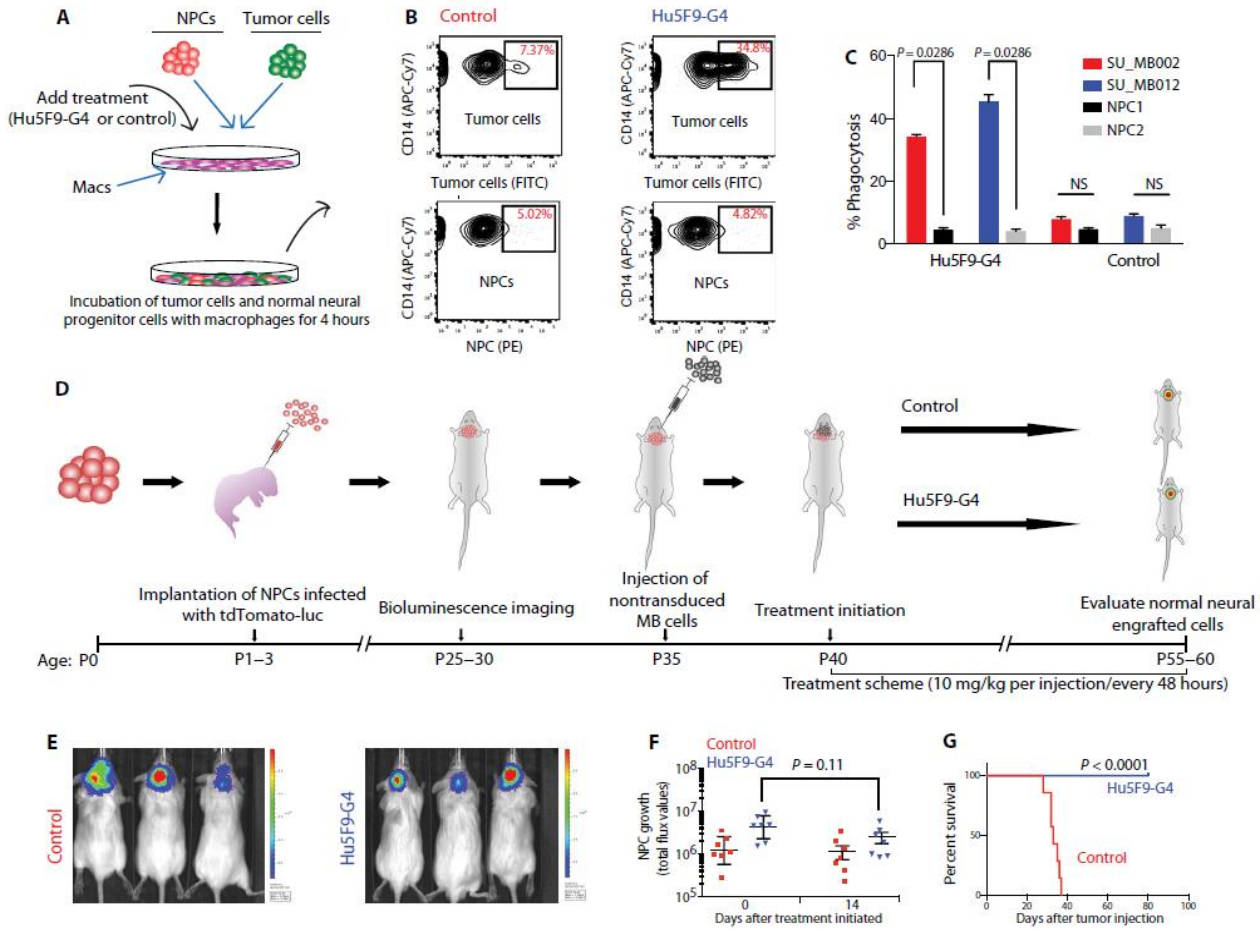
□ **Advantages**

- Xenograft animal models enable more effective preclinical drug screening and can be used to test not only the efficacy but also the toxicity of therapeutic agents
- Potential safer and more effective therapeutic to treat pediatric brain cancer

492 Methods to Treat Malignant Pediatric Brain Tumors Using Anti-CD47 Agents

Key Data

Selective targeting tumor cells in vitro and in vivo



(A) In vitro experimental design to assay Hu5F9-G4 selectivity. Color-coded NPCs (red) and SU_MB002 tumor cells (green) were coincubated with macrophages (macs) in the presence of Hu5F9-G4 and assayed for phagocytosis. (B and C) Flow cytometric (B) and histogram (C) plots show more phagocytosis of tumor cells by macrophages in the presence of Hu5F9-G4, whereas the percentage of phagocytized NPCs was low with both control and Hu5F9-G4 treatments. The color-coded tumor cells and NPCs were analyzed in the fluorescein isothiocyanate (FITC) and phycoerythrin (PE) channels, respectively. (D) Schematic representation of experimental design to test for in vivo cytotoxic effect on human NPCs in tumor-bearing mice. Unlabeled human MB cells (SU_MB002) were injected into mice with previously engrafted luciferase-expressing human NPCs and treated with Hu5F9-G4 or control. Note that in this experiment, BLI was observed from the human NPCs and not from the tumor cells. (E and F) BLI images (E) and measures (F) show no statistically significant change in growth of NPCs in mice treated with control or Hu5F9-G4. (G) Improved survival was seen in mice treated with Hu5F9-G4 compared to the control group.

492 Methods to Treat Malignant Pediatric Brain Tumors Using Anti-CD47 Agents

Intellectual Property

Patent No.	US 2018-0258170 A
Application Date	2018.03.05
Status	Application Pending
Country	US, CA

Contact Information

Contact Person	Denise Lew
Email	denise.lew@stanford.edu
URL	http://techfinder.stanford.edu/technologies/S17-082_treating-malignant-pediatric-brain