Novel CAR-T Therapy for Glioblastoma

Tech ID: 33620 / UC Case 2018-141-0

TECHNOLOGY DESCRIPTION

There are currently no effective therapies for glioblastoma (GBM). Median survival is < 18months. Previous studies targeting GBM with anti-EGFRviii CAR produced a consistent recurrence. EphA2 and IL13Ra2 are widely expressed in GBM but have imperfect specificity. Our inventors have thus developed a CAR-T cell therapy that recognizes EGFRviii+ cells and then kills in the presence of EPHA2 or IL13Rα2. This multi-antigen targeting strategy uses the synNotch "prime and kill" circuit.

STAGE OF DEVELOPMENT

EGFRviii is IND approved with recruitment for phase 1 dose escalation in GBM patients ongoing.

RELATED MATERIALS

- SynNotch-CAR T cells overcome challenges of specificity, heterogeneity, and persistence in treating glioblastoma - 04/28/2021

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	12,144,826	11/19/2024	2018-141
United States Of America	Issued Patent	12,090,170	09/17/2024	2018-143
China	Published Application	115151268	10/04/2022	2020-184
European Patent Office	Published Application	4054596	09/14/2022	2020-145
European Patent Office	Published Application	3773632	02/17/2021	2018-141
European Patent Office	Published Application	3773623	02/17/2021	2018-142
European Patent Office	Published Application	3,773,633	02/17/2021	2018-143
United States Of America	Published Application	20210023136	01/28/2021	2018-142
Australia	Published Application			2018-141
Canada	Published Application			2018-141
Australia	Published Application			2018-142
Canada	Published Application			2018-142
Australia	Published Application			2018-143
Canada	Published Application			2018-143

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OTHER INFORMATION

KEYWORDS

CAR-T, Glioblastoma, Rare disease, SynNotch, Multi-Antigen, EGFRviii, EPHA2, IL13R?2

CATEGORIZED AS

- Medical
- Disease: Cancer
- Therapeutics

RELATED CASES

2018-141-0, 2018-142-0, 2018-143-0, 2020-145-0, 2020-184-0, 2023-191-0

Additional Patents Pending

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