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T cell Receptor cDNAs to Treat Gliomas

Tech ID: 32238 / UC Case 2019-158-0

TECHNOLOGY DESCRIPTION

Gliomas are the most common primary brain tumors. Therapies remain very challenging given the paucity of targetable molecules since not all cells within a tumor can be targeted in the same way, and not all tumors express the same targets. Research at UCSF has led to the identification of the tumor-specific isoform RAD54B, a DNA repair and recombination protein, which is uniformly expressed at high levels in a vast majority of malignant gliomas. T cells expressing RAD54B-specific TCRs were generated and initial proof of concept studies have shown promise. This invention has the potential to improve the effectiveness of immunotherapy for glioma in clinical populations.

ADVANTAGES

- ▶ This new TCR can specifically recognize RAD54B
- ▶ RAD54B reliably targets the vast majority of malignant gliomas, with homogeneous expression within individual tumors, thereby making it an attractive immunotherapy
- ▶ Potentially better than peptide vaccine-based therapies which can have poor immunogenicity in the absence of an adjuvant and be susceptible to enzymatic degradation

PATENT STATUS

Patent Pending

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OTHER INFORMATION

KEYWORDS

Glioma, T Cell Receptor,

Immunotherapy, RAD54B

CATEGORIZED AS

- ▶ **Medical**
- ▶ Disease: [Cancer](#)
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