KDDF
Korea Drug Development Fund

Asset #24
FDA Technology Transfer

Chimeric Antigen Receptor (CAR)-T cells Targeting IL-13Rα2 Positive Human Solid Cancers

Therapeutic Area	Oncology	**Indications**	IL-13Rα2 Positive Human Solid Cancers
Modality	Cell Therapy	**Development Stage**	Hit to Lead/Lead Optimization

Overview

Background

- IL-13Rα2 is a cancer testis antigen overexpressed in a variety of human solid cancers including glioma, pancreatic cancer, head and neck cancer, Lung cancer, ovarian cancer and many other types of cancers, but weakly expressed or absent in normal tissues,
- IL-13Rα2 overexpression on tumor cell surface can serve as a better target for receptor directed anti-cancer therapy

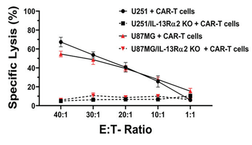
Technology Advantages

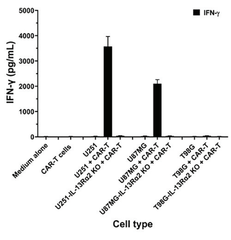
- scFv IL-13Rα2 CAR-T cells effectively killed human glioma and pancreatic cancer in a cell number dependent manner in vitro. Co-culturing CAR-T cells with tumor cells released IFN-γ suggesting the potency of the CAR-T cells.
- CAR-T cells effectively regressed human glioma and pancreatic xenografts in vivo in NOG mouse models and treated mice survived significantly longer without any health issues compared to control group of mice treated with non-transduced T cells.

Key Data

scFv IL-13Rα2 CAR-T cells potently kill IL-13Rα2 positive glioma (Figure 1A) and pancreatic tumor cells (Figure 1 B) and release IFN-γ in a co-culture assay of glioma (Figure 1C) and pancreatic cancer cells (Figure1 D)

A





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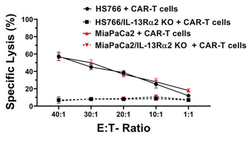
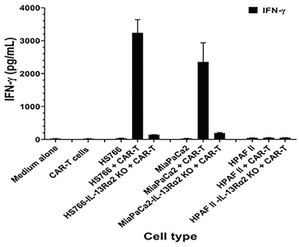
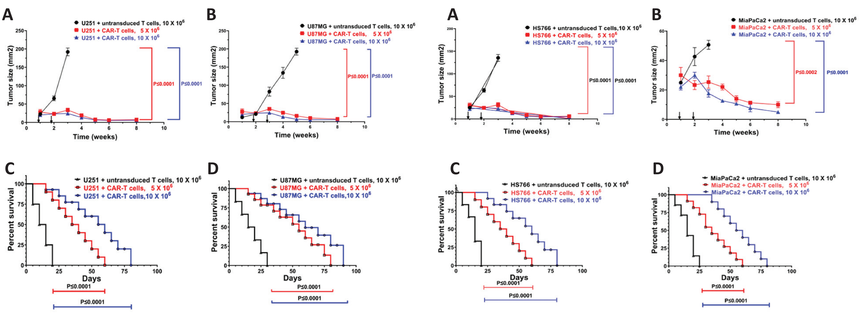




scFv IL-13Rα2 CAR-T cells effectively regressed IL-13Rα2 positive glioma (Figure 2 A and B) and pancreatic cancer xenografts (Figure 3A and B) in vivo and treated mice survived longer (Figure 2C,D for glioma and Figure 3C and D for pancreatic xenografts) without any health-related issues.



IP Status & Publication(s)

Intellectual Property

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Patent Family
PCT

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