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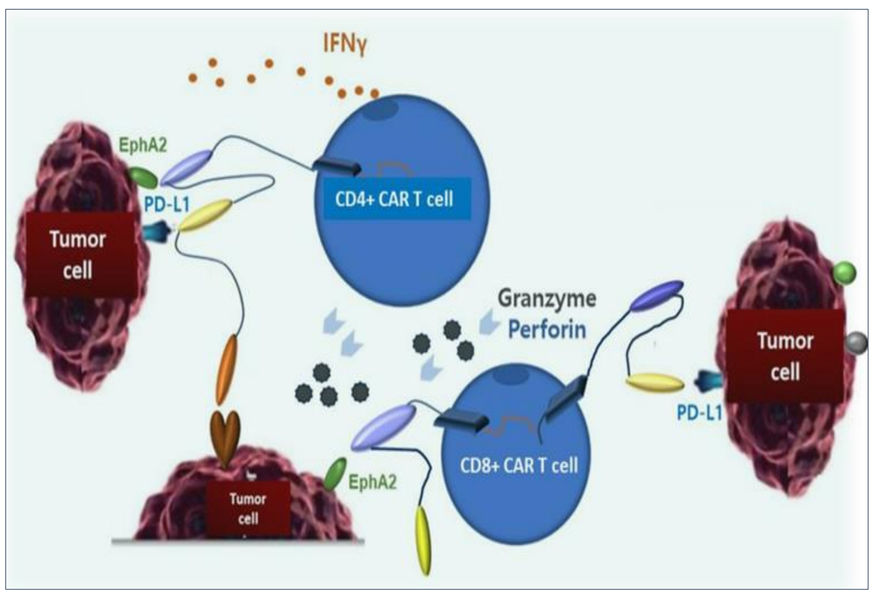
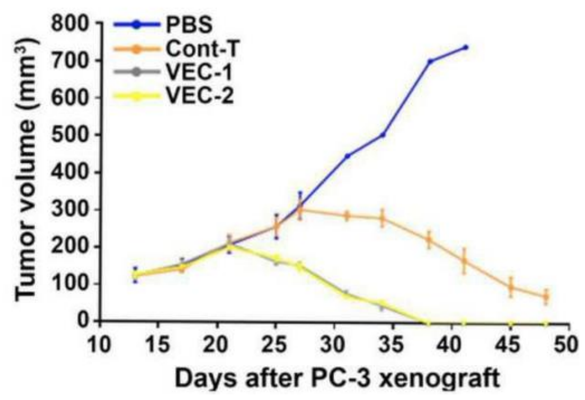
A novel monobody & scFv-based CAR-T for solid cancer

VAXCELL-BIO CO., LTD

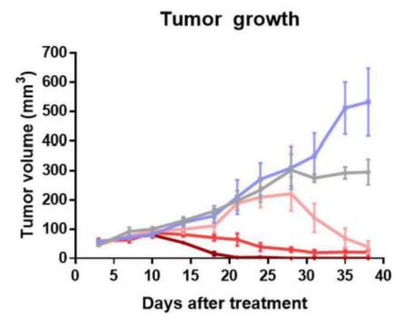
Disease Area	***Cancer***
Product Type	Anti-EphA2/PD-L1 Bispecific Tandem CAR-T
Indication	***Solid Cancer (Ovarian, Stomach, Lung, Prostate, Liver, Pancreatic cancer, Glioblastoma, etc.)***
Target	EphA2 (Ephrin receptor A2), PD-L1 (Programmed cell death-ligand 1)
Mechanism of Action	 **Ephrin type-A receptor 2 tyrosine kinase (EphA2)** •Tumor associated antigen overexpressed in most tumor tissues while found at relatively low levels in most normal adult tissues. •EphA2 expression has associations with poor prognosis, elevated metastatic potential, and reduced survival of tumor patients. **PD-1** •An immune checkpoint that suppresses T-cell functionality and its proliferation by PD-1/PD-L1 axis •Tumor cells exploit PD-1 by expressing PD-1 specific ligands (e.g. PD-L1), leading to immune escape in tumor microenvironment. **A dual tandem CAR-T devised to holistically address the EphA2 cancer-specific receptors and PD-L1 mediated antitumor immunity suppression**
Competitiveness	• Excellent EphA2 and PD-L1-targeting specificity, Exceptionally low off-tumor effects (No off-tumor in all of mouse xenograft models) • Dual-target, bi-specificity enables efficient prevention of tumor cell immune escape. • The Vaxcell-Bio's monobody-derived CAR platform offers high versatility, enabling the generation of multi-targeting CAR-T specific to a wide variety of antigens in one shot. • Publicly listed on KOSDAQ since 2020
Development Stage	***Candidate***
Route of Administration	IV Injection

anti-EphA2 CAR-T in vivo efficacy

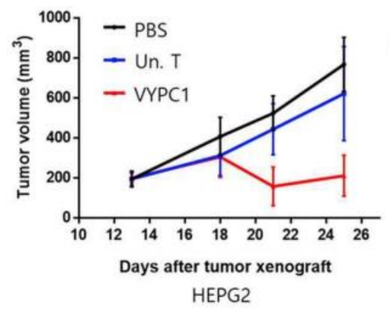


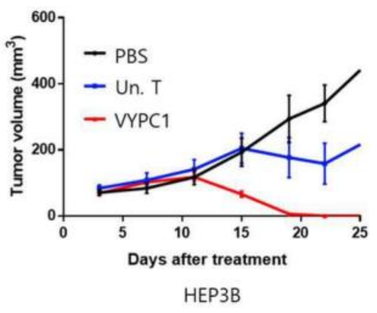
- A significant reduction of tumor volume was observed in PC-3 prostate cancer cell-derived mouse xenograft models, whilst the survival rate and weight were maintained

anti-PD-L1 CAR-T in vivo efficacy



- In vivo tumor suppression efficacy confirmed in MSI-H SNU638 advanced gastric cancer cell-derived mouse xenograft models
- Higher dosage of anti PD-L1 CAR-T led to enhanced suppression of tumor volume





- In vivo tumor suppression efficacy confirmed in 2 kinds of hepatic cancer cell-derived mouse xenograft models, respectively.

anti-EphA2/PD-L1 dual CAR-Ts in vivo efficacy and safety in ovarian cancer mice