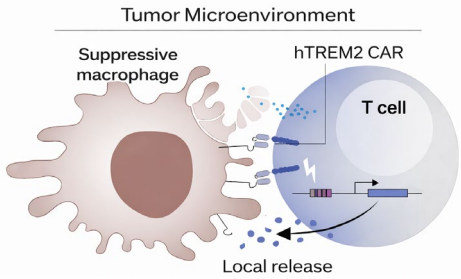
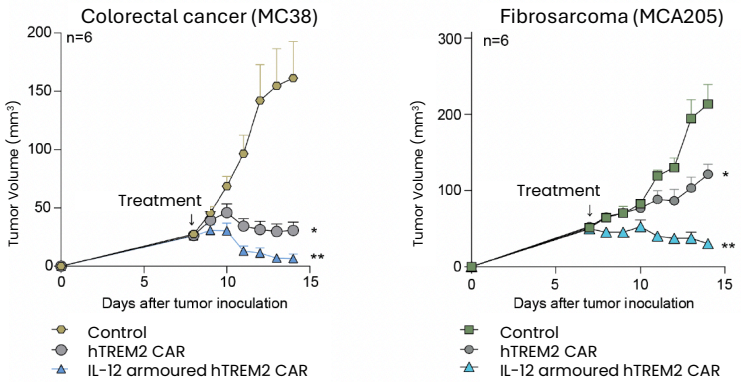
Programmable IL-12-armoured CAR-T Cells for Solid Tumors

Therapeutics

Reference Number: **2211** \ Principal Investigator: **Prof. Ido Amit** \ Patent Status: **Filed**

CAR-T therapies have underperformed in solid tumors because of antigen heterogeneity and a suppressive tumor microenvironment (TME). Our tumor-antigen-agnostic cell therapy locally targets the tumor microenvironment. Anti-TREM2 CAR-T cells eliminate TREM2+ macrophages and locally secrete pro-inflammatory IL-12 by using synthetic regulatory circuits. The local reprogramming of the immune system in the TME enables durable tumor suppression without systemic toxicity.





APPLICATIONS

- Universal CAR-T cell therapy for solid tumors
- Combination therapy to enhance immune checkpoint inhibitor efficacy

DEVELOPMENT STAGE

- Efficacy validated in mouse models of colorectal cancer and fibrosarcoma, showing a durable anti-tumor effect
- Safety: no detectable *in-vivo* systemic IL-12 toxicity

DIFFERENTIATION

Tumor-antigen independent targeting

Broad solid-tumor applicability

Localized IL-12 release without systemic exposure

Tumor-restricted activation, driven by local TME signals

REFERENCES

- Yagel et al., Cancer Cell, 2026