KDDF
Korea Drug Development Fund

Asset #28
Ramot At Tel Aviv University

Therapeutic Targeting of CD45 by Novel Agents to Immunotherapy Non-responders Tumors

Therapeutic Area	Oncology	**Indications**	Triple Negative Breast Cancer (TNBC)
Modality	Peptide	**Development Stage**	Hit to Lead/Lead Optimization

Overview

Background

- TNBC is an aggressive type of cancer, often diagnosed at a more advanced stage which affects younger women and lacks targeted therapies. Despite that TNBC can display immunogenic features, immunotherapy strategies have resulted in disappointing results, underscoring the need to optimize their use in TNBC.
- Resistance to immuno check point inhibitors remains a major hurdle to overcome, with a major need to explore novel immunotherapy strategies.

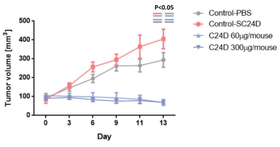
Technology Advantages

- Novel small molecules and peptides are designed
- They target a specific epitope on CD45 receptor
- These agents counteract immunosuppression caused by TNBC cells
- Potential to enhance treatment effectiveness in immunotherapy non-responsive tumors
- Possibility of combining with existing therapies for improved outcomes

Key Data

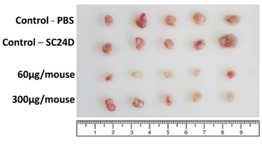
Treatment with C24D reduced TNBC tumor growth in vivo

A



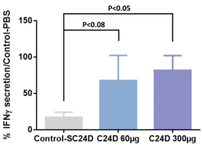
Effect of C24D on tumor growth. Tumors were measured twice-weekly in the 4 groups: Control PBS (n = 6), S-C24D (n = 8), C24D (60 µg/ml per mouse, n = 8) and C24D (300 µg/ml per mouse, n = 8).

B



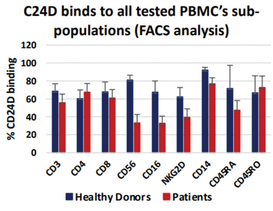
Photographs of representative tumors, extracted from mice in each group, 13 days after treatment

C

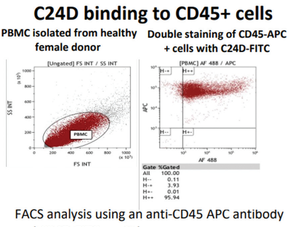


Percentage IFN-γ secretion in serum of mice treated with C24D vs. control (S-C24D). Analysis of results presented as Mean ± SD (p <0.05)

C24D binds to the CD45 receptor on human leukocytes



C24D binds to sub-populations of PBMCs.



FACS analysis using an anti-CD45 APC antibody and C24D-FITC peptide.

C24D binding to CD45+ cells was established by mass spectrometry (with PBMCs from 8 different donors (6 healthy + 2 from breast cancer patients)

X6R433	Receptor-type tyrosine-protein phosphatase C OS=Homo sapiens GN=PTPRC PE=1 SV=1 - [X6R433_HUMAN]

Smoler Proteomics Center, Technion

IP Status & Publication(s)

Intellectual Property

Patent Number
PCT-IL2020-050193 (2020.02.21)

Patent Family
PCT, US, EP

Publication(s)

- Raiter at al. (2021). A novel role for an old target: CD45 for breast cancer immunotherapy. OncoImmunology https://doi.org/10.1080/2162402X.2021.1929725
- Raiter at al. (2023) TNBC-derived Gal3BP/Gal3 complex induces immunosuppression through CD45 receptor, OncoImmunology