Docket #: S19-030

SIRP? Expression as a Biomarker of Functional CD8+ T cells During Exhaustion

Chronic stimulation of CD8+ T cells lead to a state of dysfunction known as exhaustion. Yet, there is a subset of functional CD8+ T cells defined by SIRP? expression. These are capable of proliferating, secreting IFN?, and exhibiting cytolytic activity. As a result, target cells expressing CD47 are more susceptible to killing mediated by the functional cytotoxic T cells. SIRP?+ CD8+ T cells are present in mice infected with Friend retrovirus, LCMV Clone 13, and in patients with chronic HCV infections. As such, SIRP? can have significant clinical relevance for diseases involving exhausted T cells.

Applications

- Identification of functional T cells based on SIRP? expression
- SIRP? blockade or activation to modulate T cell function

Advantages

- Identification of T cells which remain functional despite exhaustion
- Targeting a novel signaling axis (SIRP?:CD47) that is distinct from PD1:PDL1 and other signaling axes for diseases involving exhausted T cells

Publications

- Myers, LM., et al. A functional subset of CD8+ T cells during chronic exhaustion is defined by SIRP? expression. *Nature Communications* 2019; 10(1): 1-15

Patents

- Published Application: WO2020160285
- Published Application: 20220120731

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