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InnoCyto Inc.

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Anti-Human CD7 Antibody

Catalog Number:	118801, 118802
Size:	25 µg, 100 µg
Target Name:	CD7, gp40
Regulatory Status:	RUO

PRODUCT DETAILS

Clone:	Grisnilimab
Application:	Flow Cytometry
Reactivity:	Human
Format:	Purified
Isotype:	Human IgG1
Antibody Type:	Monoclonal
Formulation:	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide
Protein Concentration:	0.5 mg/mL
Storage & Handling:	The antibody solution should be stored between 2°C and 8°C
Recommended Usage:	For flow cytometric staining, it is recommended to use less than 0.2 µg of this reagent per 0.5-1.0 million cells in a 100 µL volume. Optimal reagent performance should be determined by titration for each specific application
Isotype Control:	301201

BACKGROUND INFORMATION

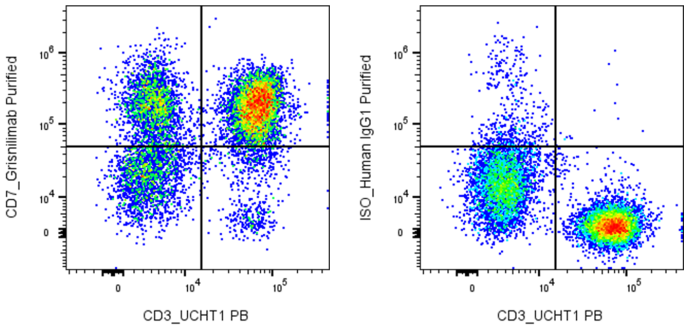
Human CD7 is a 40-kDa type I transmembrane glycoprotein and one of the earliest surface markers expressed during T-cell development. It is present on the majority of mature T cells and natural killer (NK) cells, as well as on early lymphoid and some myeloid progenitors. CD7 belongs to the immunoglobulin superfamily and contains a single extracellular immunoglobulin-like domain, a transmembrane region, and a short cytoplasmic tail containing signaling motifs. CD7 contributes to T-cell and NK-cell activation, adhesion, and cytokine production, functioning primarily as a costimulatory molecule that can amplify signals generated through the T-cell receptor.

The best-characterized ligand for human CD7 is secreted and transmembrane protein 1 (SECTM1), which exists in both membrane-bound and soluble forms. Interaction between SECTM1 and CD7 can promote T-cell proliferation and enhance cytokine production, including interferon-γ and IL-2, particularly in cooperation with other costimulatory signals.

CD7 itself is not generally considered a disease-causing molecule, but its expression pattern makes it an important biomarker and therapeutic target in hematological malignancies. CD7 is expressed in more than 95% of T-cell acute lymphoblastic leukemia (T-ALL) and T-cell lymphoblastic lymphoma (T-LBL), and is also present in subsets of peripheral T-cell lymphomas and acute myeloid leukemia.

Therapeutically, CD7 is being extensively investigated as a target for monoclonal antibodies, antibody-drug conjugates, immunotoxins, and particularly CAR-T-cell therapy. CD7 CAR-T cells have shown promising responses in relapsed or refractory T-ALL/LBL and other CD7-positive malignancies. A major challenge is “fratricide,” because normal T cells and the engineered CAR-T cells themselves express CD7. Gene editing, protein masking, and other engineering strategies are therefore being developed to prevent CAR-T self-killing and improve treatment durability.

PRODUCT DATA



Human peripheral blood lymphocytes were stained with PB Anti-Human CD3 clone UCHT1 and Purified Anti-Human CD7 biosimilar Grisnilimab (left) or an isotype control (right), followed by PE Anti-Human IgG.

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