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iF647 Anti-human CD161 Antibody

Catalog Number:	114703, 114704
Size:	25 tests, 100 tests
Target Name:	CD161, NKR-P1A, KLRB1
Regulatory Status:	RUO

PRODUCT DETAILS

Clone:	HP-3G10
Application:	Flow Cytometry
Reactivity:	Human
Format:	iF647
Isotype:	Mouse IgG1
Antibody Type:	Monoclonal
Formulation:	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and 0.2% (w/v) BSA
Protein Concentration:	Supplied at a lot-specific concentration.
Storage&Handling:	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. Do not freeze.
Recommended Usage:	For flow cytometric staining, it is recommended to use 5 µL 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. iF647 has an excitation max at 656 nm and an emission max at 670 nm.
Excitation Laser:	Red Laser (633 nm)
Isotype Controls:	301413
Antibody Family:	Human Antibodies

BACKGROUND INFORMATION

CD161, also known as KLRB1 (killer cell lectin-like receptor subfamily B member 1), is a C-type lectin receptor expressed on natural killer (NK) cells, subsets of T cells—including mucosal-associated invariant T (MAIT) cells—and some Th17 cells. It plays a role in modulating immune responses, particularly in balancing activation and inhibition during immune surveillance and inflammation.

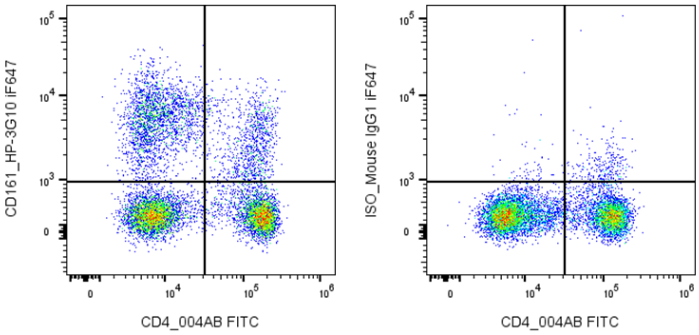
Structurally, CD161 is a type II transmembrane protein with a short N-terminal cytoplasmic domain, a single transmembrane region, and an extracellular C-type lectin-like domain responsible for ligand binding. Unlike classical lectins, it does not bind carbohydrates in a calcium-dependent manner but instead recognizes protein ligands.

The primary ligand for CD161 is LLT1 (lectin-like transcript 1, CLEC2D), which is expressed on activated immune cells such as B cells, dendritic cells, and some tumor cells. Interaction between CD161 and LLT1 generally delivers inhibitory signals that can

dampen NK and T-cell cytotoxicity and cytokine production, although context-dependent activating effects have also been reported.

In disease, CD161 is implicated in autoimmune disorders, infectious diseases, and cancer. Its expression marks IL-17–producing T cells involved in inflammatory pathology. In tumors, CD161–LLT1 interactions may contribute to immune evasion. Therapeutically, targeting this pathway is under investigation to enhance anti-tumor immunity or modulate inflammatory responses.

PRODUCT DATA



Human peripheral blood lymphocytes were stained with FITC anti-Human CD4 clone O04AB and either iF647 Anti-Human CD161 clone HP-3G10 (left) oranisotype control (right).