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InnoCyto Inc.

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FITC Anti-human CD94 Antibody

Catalog Number:	120903, 120904
Size:	25 tests, 100 tests
Target Name:	CD94, KP43
Regulatory Status:	RUO

PRODUCT DETAILS

Clone:	094AB
Application:	Flow Cytometry
Reactivity:	Human
Format:	FITC
Isotype:	Rabbit IgG
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. FITC has an excitation max at 493 nm and an emission max at 525 nm.
Excitation Laser:	Blue Laser (488 nm)
Isotype Controls:	303309
Antibody Family:	Human Antibodies
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.
Isotype Control:	303309

BACKGROUND INFORMATION

CD94, encoded by the KLRD1 gene, is a C-type lectin-like receptor expressed primarily on natural killer (NK) cells and subsets of T cells, particularly NKT-like and CD8+ T cells. CD94 plays an important role in regulating cytotoxic lymphocyte activity by recognizing major histocompatibility complex class I (MHC-I)-related molecules and helping NK cells distinguish healthy cells from cells undergoing infection or transformation. Its function depends strongly on the receptor it associates with, allowing CD94-containing complexes to deliver either inhibitory or activating signals.

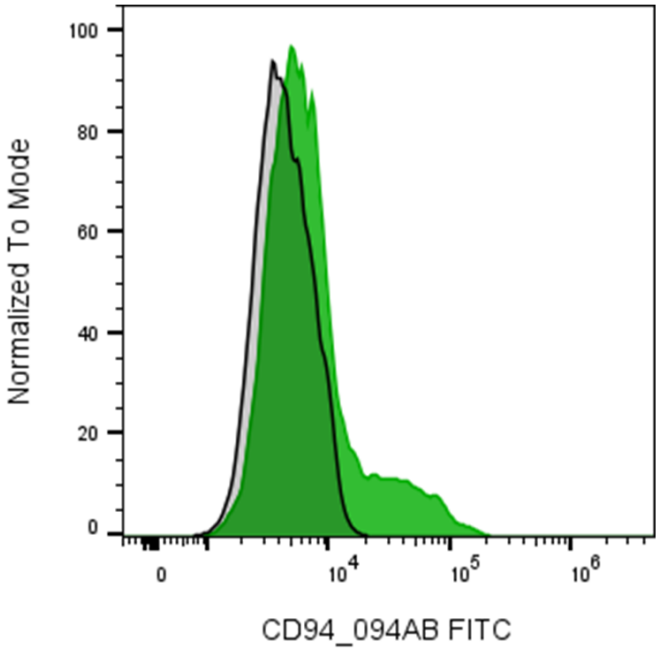
CD94 is a type II transmembrane glycoprotein belonging to the C-type lectin-like receptor family. It contains a short cytoplasmic

region, a transmembrane domain, and an extracellular C-type lectin-like domain. CD94 commonly forms heterodimers with members of the NKG2 family, including NKG2A, NKG2B, NKG2C, and NKG2E. The principal ligands for CD94/NKG2 receptors are HLA-E molecules presenting specific peptides derived largely from the leader sequences of other HLA class I proteins. CD94/NKG2A generally mediates inhibitory signaling, whereas CD94/NKG2C is associated with activating responses through the adaptor protein DAP12.

The CD94/NKG2-HLA-E axis contributes to immune surveillance and is involved in the regulation of antiviral and antitumor immunity. Altered expression or signaling of CD94-containing receptors has been reported in cancer, viral infections, and autoimmune or inflammatory conditions. Tumors may exploit inhibitory CD94/NKG2A signaling to evade NK- and T-cell-mediated immune responses, while certain chronic viral infections can alter the balance of CD94 receptor expression and activity.

Because CD94-containing receptors regulate cytotoxic lymphocyte responses, they are being investigated as potential targets for immunotherapy. Blocking inhibitory NKG2A/CD94 signaling may enhance NK- and T-cell activity against tumors, particularly when combined with other immune checkpoint inhibitors. Conversely, activating pathways involving CD94/NKG2C may potentially enhance antitumor or antiviral immunity. CD94 is therefore a useful marker for studying NK-cell biology and an emerging target for therapeutic strategies aimed at modulating innate and adaptive immune responses.

PRODUCT DATA



Human peripheral blood mononuclear cells were stained with FITC Anti-Human CD94 clone 094AB (color-filled histogram) or an isotype control (gray histogram).

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