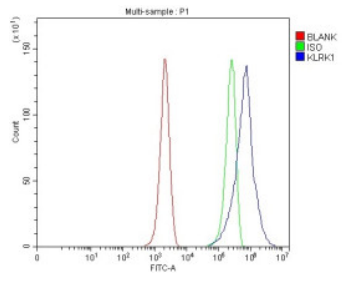
NKG2D Antibody / KLRK1 Antibody (RQ4042)

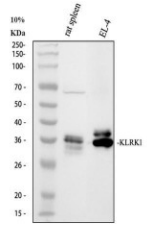
Catalog No.	Formulation	Size
RQ4042	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	P26718
Applications	Western Blot: 0.5-1ug/ml Flow cytometry: 1-3ug/million cells
Limitations	This NKG2D Antibody / KLRK1 Antibody is available for research use only.



NKG2D Antibody EL-4 Cell FACS. Flow cytometry analysis of mouse EL-4 cells was performed using NKG2D Antibody / KLRK1 Antibody following fixation with 4% paraformaldehyde and blocking with normal goat serum. Red represents the unstained control, green the rabbit IgG isotype control, and blue the antibody-stained population. The pronounced rightward shift of the blue histogram relative to the isotype control demonstrates specific detection of endogenous KLRK1 expression in EL-4 cells. This NKG2D Antibody supports flow cytometric studies of KLRK1, natural killer cell activation, cytotoxic lymphocyte biology, and immune surveillance.



NKG2D Antibody Mouse EL-4 Cell and Rat Spleen WB. Western blot analysis of NKG2D Antibody / KLRK1 Antibody detected immunoreactive bands in rat spleen and mouse EL-4 cell lysates. Lanes: (1) rat spleen tissue and (2) mouse EL-4 whole cell lysates. The predominant band is observed at approximately 35 kDa, somewhat higher than the predicted molecular weight of 25 kDa, which is consistent with the extensive N-linked glycosylation known to occur on the extracellular domain of NKG2D. This post-translational modification commonly increases the apparent molecular weight observed by western blot. This NKG2D Antibody supports western blot studies of KLRK1, natural killer cell activation, cytotoxic lymphocyte biology, and immune surveillance.

Description

NKG2D Antibody / KLRK1 Antibody recognizes a type II transmembrane C-type lectin-like receptor that functions as one of the principal activating receptors on natural killer cells and several subsets of T lymphocytes. KLRK1 is constitutively expressed on virtually all natural killer cells, CD8 positive cytotoxic T cells, gamma delta T cells, and subsets of natural killer T cells, where it detects cellular stress through interaction with stress-induced ligands. Engagement of NKG2D stimulates cytotoxic activity, cytokine production, and immune surveillance against infected, transformed, or damaged cells.

NKG2D associates with the adaptor protein DAP10, which transduces activating signals through phosphatidylinositol 3-kinase and related signaling pathways. Unlike inhibitory natural killer cell receptors that recognize major histocompatibility complex class I molecules, NKG2D binds a diverse family of ligands that become upregulated during viral infection, DNA damage, oxidative stress, or malignant transformation. Human ligands include MICA, MICB, and members of the ULBP family, while murine ligands include Rae-1, H60, and MULT1 proteins. This ligand-receptor system enables rapid immune recognition and elimination of abnormal cells before adaptive immune responses are fully established.

Altered NKG2D signaling has been implicated in cancer immune evasion, chronic viral infections, autoimmune diseases, transplantation, and inflammatory disorders. Many tumors develop mechanisms to downregulate surface ligands or release soluble NKG2D ligands, thereby suppressing natural killer cell function and promoting immune escape. Consequently, KLRK1 has become an important target in cancer immunotherapy, adoptive natural killer cell therapies, chimeric antigen receptor engineering, and studies of antitumor immunity. Continued investigation of NKG2D is advancing understanding of innate immune recognition and lymphocyte activation.

An NKG2D Antibody is a valuable reagent for detecting endogenous KLRK1 by western blotting, immunohistochemistry, immunofluorescence, flow cytometry, immunoprecipitation, and related laboratory applications. A KLRK1 Antibody supports investigations of natural killer cell activation, immune surveillance, cytotoxic lymphocyte biology, cancer immunology, and antiviral immune responses.

Researchers studying natural killer cells, T cell activation, innate immunity, and immune checkpoint biology may also be interested in exploring our Immunology Marker Antibodies page for additional validated research antibodies.

Application Notes

Optimal dilution of the NKG2D Antibody / KLRK1 Antibody should be determined by the researcher.

Immunogen

Amino acids YQFFDESKNWYESQASCMSQNASLLKVYSKEDQDLLKLVKSYH from the human protein were used as the immunogen for the NKG2D antibody.

Storage

After reconstitution, the NKG2D antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at

-20oC. Avoid repeated freezing and thawing.

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