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KLRC1 Antibody (C-term) Blocking Peptide

Synthetic peptide
Catalog # BP8629b

Specification

KLRC1 Antibody (C-term) Blocking Peptide - Product Information

Primary Accession P26715

KLRC1 Antibody (C-term) Blocking Peptide - Additional Information

Gene ID 3821

Other Names
NKG2-A/NKG2-B type II integral membrane protein, CD159 antigen-like family member A, NK cell receptor A, NKG2-A/B-activating NK receptor, CD159a, KLRC1, NKG2A

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP8629b was selected from the C-term region of human KLRC1. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

KLRC1 Antibody (C-term) Blocking Peptide - Protein Information

Name KLRC1

Synonyms NKG2A {ECO:0000303|PubMed:18083576}

Function
Immune inhibitory receptor involved in self-nonself discrimination. In complex with KLRD1 on cytotoxic and regulatory lymphocyte subsets, recognizes non-classical major histocompatibility (MHC) class Ib molecule HLA-E loaded with self-peptides derived from the signal sequence of classical MHC class Ia molecules. Enables cytotoxic cells to monitor the expression of MHC class I molecules in healthy cells and to tolerate self (PubMed:9486650, PubMed:18083576, PubMed:9430220, PubMed:37264229). Upon

HLA-E-peptide binding, transmits intracellular signals through two immunoreceptor tyrosine-based inhibition motifs (ITIMs) by recruiting INPP5D/SHP-1 and INPPL1/SHP-2 tyrosine phosphatases to ITIMs, and ultimately opposing signals transmitted by activating receptors through dephosphorylation of proximal signaling molecules (PubMed:9485206, PubMed:12165520). Key inhibitory receptor on natural killer (NK) cells that regulates their activation and effector functions (PubMed:9486650, PubMed:9430220, PubMed:9485206, PubMed:30860984). Dominantly counteracts T cell receptor signaling on a subset of memory/effector CD8-positive T cells as part of an antigen-driven response to avoid autoimmunity (PubMed:12387742). On intraepithelial CD8-positive gamma-delta regulatory T cells triggers TGFB1 secretion, which in turn limits the cytotoxic programming of intraepithelial CD8-positive alpha-beta T cells, distinguishing harmless from pathogenic antigens (PubMed:18064301). In HLA-E-rich tumor microenvironment, acts as an immune inhibitory checkpoint and may contribute to progressive loss of effector functions of NK cells and tumor-specific T cells, a state known as cell exhaustion (PubMed:30503213, PubMed:30860984).

Cellular Location
Cell membrane; Single-pass type II membrane protein

Tissue Location
Predominantly expressed in NK cells (at protein level) (PubMed:9430220, PubMed:9485206, PubMed:20952657). Expressed in intraepithelial CD8-positive T cell subsets with higher frequency in gamma-delta T cells than alpha-beta T cells (at protein level) (PubMed:18064301). Expressed in memory gamma-delta T cells (at protein level) (PubMed:20952657). Restricted to a subset of memory/effector CD8-positive alpha-beta T cells (at protein level) (PubMed:12387742) Expressed in intratumoral NK and CD8-positive T cells (PubMed:30503213). Expressed in melanoma-specific cytotoxic T cell clones (at protein level) (PubMed:9485206). KLRD1-KLRC1 and KLRD1-KLRC2 are differentially expressed in NK and T cell populations, with only minor subsets expressing both receptor complexes (at protein level) (PubMed:20952657).

KLRC1 Antibody (C-term) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

KLRC1 Antibody (C-term) Blocking Peptide - Images

KLRC1 Antibody (C-term) Blocking Peptide - Background

Natural killer (NK) cells are lymphocytes that can mediate lysis of certain tumor cells and virus-infected cells without previous activation. They can also regulate specific humoral and cell-mediated immunity. This protein belongs to the killer cell lectin-like receptor family, also called NKG2 family, which is a group of transmembrane proteins preferentially expressed in NK cells. This family of proteins is characterized by the type II membrane orientation and the presence of a C-type lectin domain. This protein forms a complex with another family member, KLRD1/CD94, and has been implicated in the recognition of the MHC class I HLA-E molecules in NK cells.

KLRC1 Antibody (C-term) Blocking Peptide - References

Brooks,A.G., et.al., J. Exp. Med. 185 (4), 795-800 (1997)Plougastel,B., et.al., Immunogenetics 44 (4), 286-291 (1996)