

KLRC1 Antibody (C-term) Blocking Peptide
Synthetic peptide
Catalog # BP8629b**Specification**

KLRC1 Antibody (C-term) Blocking Peptide - Product InformationPrimary 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](/products/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-nonsel self discrimination. In complex with KLRC1 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: [18083576](http://www.uniprot.org/citations/18083576), PubMed: [37264229](http://www.uniprot.org/citations/37264229), PubMed: [9430220](http://www.uniprot.org/citations/9430220), PubMed: [9486650](http://www.uniprot.org/citations/9486650)). 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:12165520, PubMed:9485206). Key inhibitory receptor on natural killer (NK) cells that regulates their activation and effector functions (PubMed:30860984, PubMed:9430220, PubMed:9485206, PubMed:9486650). 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:20952657, PubMed:9430220, PubMed:9485206). 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)