Datasheet for ABIN7548828

CD94 Protein (AA 1-179) (His tag)

Go to Product page

Overview

Quantity:	1 mg
Target:	CD94 (KLRD1)
Protein Characteristics:	AA 1-179
Origin:	Human
Source:	HEK-293 Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This CD94 protein is labelled with His tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS)

Product Details

Purpose:	Custom-made recombinat KLRD1 Protein expressed in mammalien cells.
Sequence:	MAVFKTTLWR LISGTLGIIC LSLMSTLGIL LKNSFTKLSI EPAFTPGPNI ELQKDSDCCS CQEKWVGYRC NCYFISSEQK TWNESRHLCA SQKSSLLQLQ NTDELDFMSS SQQFYWIGLS YSEEHTAWLW ENGSALSQYL FPSFETFNTK NCIAYNPNGN ALDESCEDKN RYICKQQLI **Sequence without tag. The proposed Purification-Tag is based on experiences with the expression system, a different complexity of the protein could make another tag necessary. In case you have a special request, please contact us.**
Characteristics:	Key Benefits: • Made to order protein - from design to production - by highly experienced protein experts. • Protein expressed in mammalien cells and purified in one-step affinity chromatography • The optimized expression system ensures reliability for intracellular, secreted and transmembrane proteins.

Product Details

	• State-of-the-art algorithm used for plasmid design (Gene synthesis). This protein is a made-to-order protein and will be made for the first time for your order. Our experts in the lab try to ensure that you receive soluble protein. If you are not interested in a full length protein, please contact us for individual protein fragments. The big advantage of ordering our made-to-order proteins in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein cannot be expressed or purified.
Purity:	> 90 % as determined by Bis-Tris Page, Western Blot
Grade:	custom-made

Target Details

Target:	CD94 (KLRD1)
Alternative Name:	KLRD1 (KLRD1 Products)
Background:	Natural killer cells antigen CD94 (KP43) (Killer cell lectin-like receptor subfamily D member 1) (NK cell receptor) (CD antigen CD94),FUNCTION: Immune receptor involved in self-nonself discrimination. In complex with KLRC1 or KLRC2 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 and non-classical MHC class Ib molecules (PubMed:9486650, PubMed:10023772, PubMed:18083576, PubMed:18064301, PubMed:9754572, PubMed:37264229). Enables cytotoxic cells to monitor the expression of MHC class I molecules in healthy cells and to tolerate self (PubMed:9430220, PubMed:12387742, PubMed:18064301). Primarily functions as a ligand binding subunit as it lacks the capacity to signal. {ECO:0000269|PubMed:10023772, ECO:0000269|PubMed:12387742, ECO:0000269|PubMed:18064301, ECO:0000269|PubMed:18083576, ECO:0000269|PubMed:37264229, ECO:0000269|PubMed:9430220, ECO:0000269|PubMed:9486650, ECO:0000269|PubMed:9754572}., FUNCTION: KLRD1-KLRC1 acts as an immune inhibitory receptor. 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). Upon HLA-E-peptide binding, transmits intracellular signals through KLRC1 immunoreceptor tyrosine-based inhibition motifs (ITIMs) by recruiting INPP5D/SHIP-1 and INPPL1/SHIP-2 tyrosine phosphatases to ITIMs, and ultimately opposing signals transmitted by activating receptors through dephosphorylation of proximal signaling molecules (PubMed:9485206, PubMed:12165520). {ECO:0000269|PubMed:12165520, ECO:0000269|PubMed:12387742, ECO:0000269|PubMed:18064301, ECO:0000269|PubMed:30503213, ECO:0000269|PubMed:30860984, ECO:0000269|PubMed:9430220, ECO:0000269|PubMed:9485206, ECO:0000269|PubMed:9486650}., FUNCTION: KLRD1-KLRC2 acts as an immune activating receptor (PubMed:9655483, PubMed:15940674). On cytotoxic lymphocyte subsets recognizes HLA-E loaded with signal sequence-derived peptides from non-classical MHC class Ib HLA-G molecules, likely playing a role in the generation and effector functions of adaptive NK cells and in maternal-fetal tolerance during pregnancy (PubMed:9754572, PubMed:30134159). Regulates the effector functions of terminally differentiated cytotoxic lymphocyte subsets, and in particular may play a role in adaptive NK cell response to viral infection (PubMed:21825173, PubMed:20952657). Upon HLA-E-peptide binding, transmits intracellular signals via the adapter protein TYROBP/DAP12, triggering the phosphorylation of proximal signaling molecules and cell activation (PubMed:9655483, PubMed:15940674). {ECO:0000269|PubMed:15940674, ECO:0000269|PubMed:20952657, ECO:0000269|PubMed:21825173, ECO:0000269|PubMed:30134159, ECO:0000269|PubMed:9655483, ECO:0000269|PubMed:9754572}., FUNCTION: (Microbial infection) Viruses like human cytomegalovirus have evolved an escape mechanism whereby virus-induced down-regulation of host MHC class I molecules is coupled to the binding of viral peptides to HLA-E, restoring HLA-E expression and inducing HLA-E-dependent NK cell immune tolerance to infected cells. Recognizes HLA-E in complex with human cytomegalovirus UL40-derived peptide (VMAPRTLIL) and inhibits NK cell cytotoxicity. {ECO:0000269|PubMed:10669413, ECO:0000269|PubMed:23335510}., FUNCTION: (Microbial infection) May recognize HLA-E in complex with HIV-1 gag/Capsid protein p24-derived peptide (AISPRTLNA) on infected cells and may inhibit NK cell cytotoxicity, a mechanism that allows HIV-1 to escape immune recognition. {ECO:0000269|PubMed:15751767}., FUNCTION:

Target Details

	(Microbial infection) Upon SARS-CoV-2 infection, may contribute to functional exhaustion of cytotoxic NK cells and CD8-positive T cells (PubMed:32859121). On NK cells, may recognize HLA-E in complex with SARS-CoV-2 S/Spike protein S1-derived peptide (LQPRTFLL) expressed on the surface of lung epithelial cells, inducing NK cell exhaustion and dampening antiviral immune surveillance (PubMed:32859121). {ECO:0000269|PubMed:32859121}.
Molecular Weight:	20.5 kDa
UniProt:	Q13241

Application Details

Application Notes:	In addition to the applications listed above we expect the protein to work for functional studies as well. As the protein has not been tested for functional studies yet we cannot offer a guarantee though.
Restrictions:	For Research Use only

Handling

Format:	Liquid
Buffer:	The buffer composition is at the discretion of the manufacturer.
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	12 months