

PRODUCT INFORMATION

NKR-P1A/CD161 Extracellular Domain (mouse, recombinant)

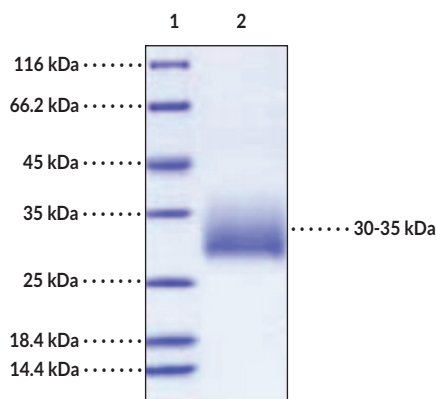
Item No. 38063

Overview and Properties

Synonyms:	CD161 Antigen-like Family Member A, Killer Cell Lectin-like Receptor Subfamily B Member 1A, KLRB1A, Natural Killer Cell Receptor P1A
Source:	Recombinant mouse N-terminal His-tagged NKRP-1A extracellular domain expressed in HEK293 cells
Amino Acids:	67-277
Uniprot No.:	P27811
Molecular Weight:	21 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	≥95% estimated by SDS-PAGE
Supplied in:	Lyophilized from sterile PBS, pH 7.4
Endotoxin Testing:	<1.0 EU/μg, determined by the LAL endotoxin assay

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Image



Lane 1: MW Markers

Lane 2: NKRP-1A/CD161 Extracellular Domain

SDS-PAGE Analysis of NKRP-1A/CD161 Extracellular Domain.
This protein has a calculated molecular weight of 21 kDa. It has an apparent molecular weight of approximately 30-35 kDa by SDS-PAGE due to glycosylation.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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Description

CD161, also known as natural killer (NK) cell receptor P1A (NKR-P1A), is a type II transmembrane protein that is encoded by the *Klrb1a* gene in mice.¹ It is composed of an N-terminal cytoplasmic domain, a transmembrane domain, a stalk region, and an extracellular region that contains the C-type lectin-like domain and is expressed in NK cells and T cells.^{1,2} NKR-P1A is an inhibitory receptor in humans, which is stimulated by its ligand lectin-like transcript 1 (LLT-1) and signals through the PI3K/Akt/ERK pathway, whereas Nrk-p1a is an activating receptor in mice, which signals through the immunoreceptor tyrosine-based activation motifs (ITAMs) of adaptor proteins.¹ Monoclonal antibodies targeting NKR-P1A increase T cell-induced cytotoxicity and decrease programmed cell death protein 1 (PD-1) levels in glioblastoma cells and knockout of *KLRB1* increases survival in a humanized mouse model of glioblastoma.³ Levels of NKR-P1A are increased in CD4⁺ and CD8⁺ T cells in patients with advanced stage osteoarthritis.⁴ Cayman's NKR-P1A/CD161 Extracellular Domain (mouse, recombinant) protein consists of 180 amino acids and has a calculated molecular weight of 21 kDa. By SDS-PAGE, under reducing conditions, the apparent molecular mass of the protein is 30-35 kDa due to glycosylation.

References

1. Rozbeský, D., Ivanova, L., Hernychová, L., *et al.* Nkrp1 family, from lectins to protein interacting molecules. *Molecules* **20**(2), 3463-3478 (2015).
2. Yu, Y.Y.L., Kumar, V., and Bennett, M. Murine natural killer cells and marrow graft rejection. *Annu. Rev. Immunol.* **10**, 189-213 (1992).
3. Mathewson, N.D., Ashenberg, O., Tirosh, I., *et al.* Inhibitory CD161 receptor identified in glioma-infiltrating T cells by single-cell analysis. *Cell* **184**(5), 1281-1298 (2021).
4. Sachdeva, M., Aggarwal, A., Sharma, R., *et al.* Chronic inflammation during osteoarthritis is associated with an increased expression of CD161 during advanced stage. *Scand. J. Immunol.* **90**(1), e12770 (2019).

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