



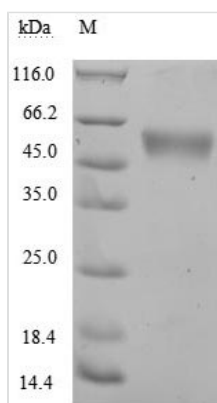
# Recombinant Human NKG2-D type II integral membrane protein (KLRK1), partial (Active)

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
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| <b>Product Code</b>        | CSB-MP012474HU1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Relevance</b>           | Function as an activating and costimulatory receptor involved in immunosurveillance upon binding to various cellular stress-inducible ligands displayed at the surface of autologous tumor cells and virus-infected cells. Provides both stimulatory and costimulatory innate immune responses on activated killer (NK) cells, leading to cytotoxic activity. Acts as a costimulatory receptor for T-cell receptor (TCR) in CD8+ T-cell-mediated adaptive immune responses by amplifying T-cell activation. Stimulates perforin-mediated elimination of ligand-expressing tumor cells. Signaling involves calcium influx, culminating in the expression of TNF-alpha. Participates in NK cell-mediated bone marrow graft rejection. May play a regulatory role in differentiation and survival of NK cells. Binds to ligands belonging to various subfamilies of MHC class I-related glycoproteins including MICA, MICB, RAET1E, RAET1G, RAET1L/ULBP6, ULBP1, ULBP2, ULBP3 (ULBP2>ULBP1>ULBP3) and ULBP4. |
| <b>Abbreviation</b>        | Recombinant Human KLRK1 protein, partial (Active)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Storage</b>             | The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Uniprot No.</b>         | P26718                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Storage Buffer</b>      | Lyophilized from a 0.2 µm filtered PBS, 6% Trehalose, pH 7.4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Product Type</b>        | Others                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Immunogen Species</b>   | Homo sapiens (Human)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Biological Activity</b> | ①Measured by its binding ability in a functional ELISA. Immobilized KLRK1 at 10 µg/ml can bind human ULBP1 (CSB-MP887177HU), the EC <sub>50</sub> of human KLRK1 protein is 222.4-276.0 ng/ml.②Human KLRK1 protein Fc tag (CSB-MP012474HU1) captured on COOH chip can bind Human ULBP1 protein Fc/myc tag (CSB-MP887177HU) with an affinity constant of 2.27 nM as detected by LSPR Assay.③Measured by its binding ability in a functional ELISA. Immobilized KLRK1 at 10 µg/ml can bind human Biotinylated ULBP1(CSB-MP887177HUj1-B), the EC <sub>50</sub> is 4.254-7.295 ng/ml.                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Purity</b>              | Greater than 90% as determined by SDS-PAGE.<br>Greater than 90% as determined by SEC-HPLC.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Sequence</b>            | FLNSLFNQEVQIPLTESYCGPCPKNWICYKNNCYQFFDESKNWYESQASCMS<br>QNASLLKVYSKEDQDLLKLVKSYHWMGLVHIPTNGSWQWEDGSILSPNLLTIE<br>MQKGDICALYASSFKGYIENCSTPNTYICMQRTV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Research Area</b>       | Cancer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

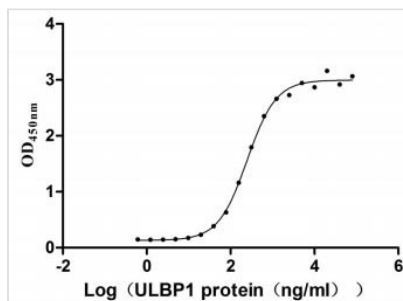


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|--------------------------|-----------------------------------------------------------------------------------------------------|
| <b>Source</b>            | Mammalian cell                                                                                      |
| <b>Target Names</b>      | KLRK1                                                                                               |
| <b>Expression Region</b> | 78-216aa                                                                                            |
| <b>Notes</b>             | Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week. |
| <b>Tag Info</b>          | C-terminal hFc1-tagged                                                                              |
| <b>Mol. Weight</b>       | 43.6 kDa                                                                                            |
| <b>Protein Length</b>    | Partial                                                                                             |

### Image

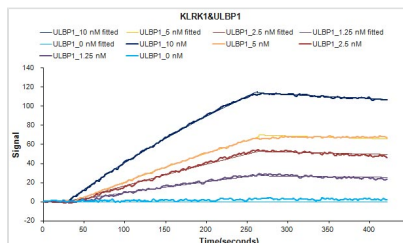


(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

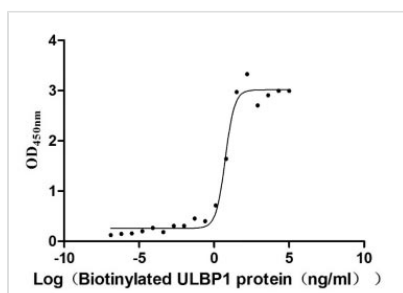


### Activity

Measured by its binding ability in a functional ELISA. Immobilized KLRK1 at 10 µg/ml can bind human ULBP1 (CSB-MP887177HU), the EC<sub>50</sub> of human KLRK1 protein is 222.4-276.0 ng/ml.

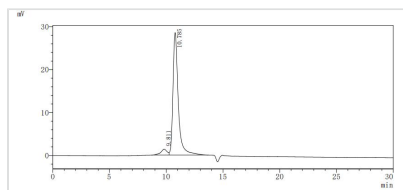


Human KLRK1 protein Fc tag (CSB-MP012474HU1) captured on COOH chip can bind Human ULBP1 protein Fc/myc tag (CSB-MP887177HU) with an affinity constant of 2.27 nM as detected by LSPR Assay.



### Activity

Measured by its binding ability in a functional ELISA. Immobilized KLRK1 at 10 µg/ml can bind human Biotinylated ULBP1(CSB-MP887177HUj1-B), the EC<sub>50</sub> is 4.254-7.295 ng/ml.



The purity of KLRK1 was greater than 90% as determined by SEC-HPLC.

## Description

The human NKG2-D type II integral membrane protein or KLRK1 is a costimulatory receptor expressed in Natural Killers and CD8<sup>+</sup> T-cells. KLRK1 participates in the immunosurveillance of tumor and virus-infected cells and mediates the activation of T-cell receptors in CD8<sup>+</sup> cells, causing the amplification of the T-cell-mediated adaptive immune response. This target protein KLRK1 also modulates natural immunity by activating the NK cell cytotoxic activity. It's activated by the interaction of stress-induced ligands presented on the surface by the MHC class I binding proteins. This recombinant product is the 78-216aa region of the KLRK1 protein, which is expressed in mammalian cells and fused on the C-terminus with an Fc tag. It has a final molecular weight of 43.6 kDa. This product has a purity higher than 90%, as measure by SDS-PAGE. The affinity constant of this protein against ULBP1 was 2.27 nM as detected by LSPR, and the EC<sub>50</sub> was 222.4-276.0 ng/ml, as determined by ELISA binding assay. The protein can be used in immunity modulation and immunosuppression studies on cancer and viral diseases. The final product has low levels of endotoxin, with less than 1.0 EU/μg as determined by the LAL method.

## Endotoxin

Less than 1.0 EU/ug as determined by LAL method.

## Shelf Life

The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.