

## KIR2DL1 Protein, Human, Recombinant (hFc)

### General Information

Synonyms:	KIR-K64;KIR221;killer cell immunoglobulin like receptor, two Ig domains and long cytoplasmic tail 1;XXbac-BCX195L8.1;NKAT-1;p58.1;NKAT1;XXbac-BPG184J6.7;NKAT;CD158A
Protein Construction:	A DNA sequence encoding the human KIR2DL1 (NP_055033.2) extracellular domain (Met 1-His 245) was fused with the Fc region of human IgG1 at the C-terminus. Predicted N terminal: His 22
Species:	Human
Expression Host:	HEK293 Cells
Accession:	Q6H2H3
Molecular Weight:	51.7 kDa (predicted); 70 kDa (reducing condition, due to glycosylation)

### QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 90 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

### Preparation and Storage

#### Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

#### Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

#### Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

Killer cell immunoglobulin-like receptor 2DL1 or KIR2DL1 is an inhibitory Natural Killer cell immunoglobulin-like receptor with two extracellular immunoglobulin domains. KIR2DL1 is a member of the Killer cell immunoglobulin-like receptor family whose members are classified by the number of the extracellular immunoglobulin domains

and the length of the cytoplasm domain. KIR2DL1 is a transmembrane glycoprotein expressed by natural killer cells and subsets of T cells. KIR2DL1 down-regulates the cytotoxicity of NK cells upon recognition of specific class I major histocompatibility complex (MHC) molecules on target cells. It has been reported that the KIR2DL1 is bound to its class I MHC ligand, HLA-Cw4. The KIR2DL1-HLA-Cw4 interface exhibits charge and shape complementarity. Specificity is mediated by a pocket in KIR2DL1 that hosts the Lys80 residue of HLA-Cw4. Many residues conserved in HLA-C and KIR2DL receptors make different interactions in KIR2DL1-HLA-Cw4 and a previously reported KIR2DL2-HLA-Cw3 complex. A dimeric aggregate of KIR-HLA-C complexes was observed in one KIR2DL1-HLA-Cw4 crystal.

### Reference

Fan QR, et al. (2001) Crystal structure of the human natural killer cell inhibitory receptor KIR2DL1-HLA-Cw4 complex. *Nature Immunology*. 2: 452-60.

Wagtmann N, et al. (1995) Molecular clones of the p58 NK cell receptor reveal immunoglobulin-related molecules with diversity in both the extra- and intracellular domains. *Immunity*. 2 (5): 439-49.

Colonna M, et al. (1995) Cloning of immunoglobulin-superfamily members associated with HLA-C and HLA-B recognition by human natural killer cells. *Science*. 268 (5209): 405-8.

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