Data Sheet (Cat.No.TMPJ-01212)

TargetMol

ULBP-1 Protein, Mouse, Recombinant (His)

General Information

Synonyms:	RAET1I;ULBP1;NKG2DL1
Protein Construction:	Pro26-Thr211
Species:	Mouse
Expression Host:	HEK293 Cells
Accession:	Q8HWA3
Molecular Weight:	30-40 KDa (reducing condition)
AA Sequence:	Pro26-Thr211

QC Testing

Biological Activity:	Activity has not been tested. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Endotoxin:	< 0.1 ng/μg (1 EU/μg) as determined by LAL test.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing 20 mM PB, 150 mM NaCl, pH 7.4.

Preparation and Storage

Reconstitution:

Reconstitute the lyophilized protein in distilled water. The product concentration should not be less than 100 μg/ml. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

Stability & Storage:

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

Mouse ULBP1, also known as RAET1I and NKG2DL1, is a member of the ULBP/RAET1 gene family. ULBP1 plays an important role in immune responses, especially in cancer and infectious diseases, and is well-known to bind to NKG2D together with at least ULBP 2 and 3. These proteins are distantly related to major histocompatibility class I (MHC I) molecules, possessing the alpha 1 and alpha 2 Ig-like domains, but lacking the alpha 3 domain. Unlike MHC Class I, they have no capacity to bind peptide or interact with beta2-microglobulin. It can activate multiple signaling pathways in primary NK cells, gamma delta T cells, and CD8+ alpha beta T cells, resulting in the

production of cytokines and chemokines.ULBP1 is expressed in wide range of tissues including heart, brain, lung, liver, bone marrow and some tumor cells, T-cells, B-cells, As an unconventional member of the MHC class I family, ULBP1 is able to interact with soluble CMV glycoprotein UL16 in CMV infected cells. The interaction with UL16 blocked the interaction with the NKG2D receptor, and thus might escape the immune surveillance. Furthermore, UL16 also causes ULBP1 to be retained in the ER and cis-Golgi apparatus so that it does not reach the cell surface. The ULBP1 regulation may have implications for development of new therapeutic strategies against cancer cells.