

Human ULBP1 / RAET1 / N2DL1 Protein (His & Fc Tag)

Catalog Number: 10679-H03H



Sino Biological
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General Information

Gene Name Synonym:

RAET1I

Protein Construction:

A DNA sequence encoding the mature form of human ULBP1 (NP_079494.1) (Met 1-Gly 216) was fused with the C-terminal polyhistidine-tagged Fc region of human IgG1 at the C-terminus.

Source: Human

Expression Host: HEK293 Cells

QC Testing

Purity: > 95 % as determined by SDS-PAGE

Bio Activity:

Immobilized human His-NKG2D (78-216) (Cat: 10575-H07B) at 2 µg/ml (100 µl/well) can bind human ULBP1-Fch (Cat: 10679-H03H). The EC₅₀ of human ULBP1-Fch (Cat: 10679-H03H) is 8-24 ng/mL.

Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

Predicted N terminal: Gly 26

Molecular Mass:

The mature form of recombinant human ULBP1/Fc is a disulfide-linked homodimer. The reduced monomer comprises 439 amino acids and predicts a molecular mass of 50.4 kDa. The apparent molecular mass of rhULBP1/Fc monomer is approximately 55-60 kDa in SDS-PAGE under reducing conditions due to glycosylation.

Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Stability & Storage:

Samples are stable for twelve months from date of receipt at -20°C to -80°C.

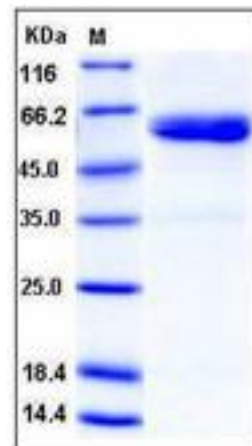
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

UL16-binding proteins (ULBP) or retinoic acid early transcripts-1 (RAET1) are ligands to the activating receptor, NKG2D. Ten members of the human ULBP/RAET1 gene family have been identified to encode for potentially functional proteins, and have tissue-specific expressions. ULBP1, also known as RAET1I and NKG2DL1, together with at least ULBP 2 and 3, are well-known ligands for NKG2D, and activate multiple signaling pathways in primary NK cells, resulting in the production of cytokines and chemokines. ULBP1 is expressed in T-cells, B-cells, erythroleukemia cell lines and in a wide range of tissues including heart, brain, lung, liver and bone marrow, as well as some tumor cells. As an unconventional member of the MHC class I family, ULBP1 function in immune responses, especially in cancer and infectious diseases. Unlike other ULBP members, 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.

References

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2. López-Soto, A. et al., 2006, J Biol Chem. 281(41): 30419-30430.
3. Song, H. et al., 2006, Cell Immunol. 239(1): 22-30.
4. Eisele, G. et al., 2006, Brain. 129 (9): 2416-2425.
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6. Sutherland, C.L. et al., 2002, J. Immunol. 168: 671-679.

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