Recombinant Human CLEC12B Fc Chimera

Catalog Number: 1652-CL

DESCRIPTION

Source Chinese Hamster Ovary cell line, CHO-derived human CLEC12B protein

MD	Human IgG_1 (Pro100-Lys330)	IEGR	Human CLEC12B (Leu65-Asp276) Accession # Q2HXU8-1

N-terminus C-terminus

N-terminal Sequence Analysis Met

Structure / Form Disulfide-linked homodimer

Predicted Molecular Mass 51 kDa

SPECIFICATIONS

SDS-PAGE 54-66 kDa, reducing conditions

Activity Measured by its binding ability in a functional ELISA.
When Recombinant Human CLEC12B Fc Chimera is immobilized at 4 µg/mL (100 µL/well), Recombinant Human MICA Fc Chimera (Catalog # 1300-MA) binds with an ED_{50} of 1-6 µg/mL.

Endotoxin Level <0.10 EU per 1 µg of the protein by the LAL method.

Purity >95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.

Formulation Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution Reconstitute at 500 µg/mL in PBS.

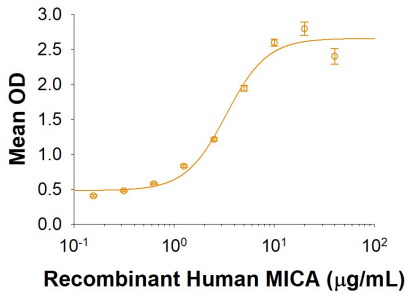
Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage

- 12 months from date of receipt, ≤ -20 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, ≤ -20 °C under sterile conditions after reconstitution.

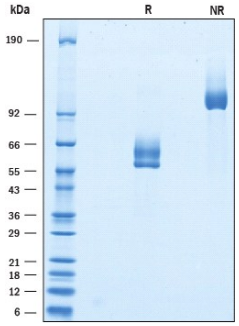
DATA

Binding Activity



When Recombinant Human CLEC12B Fc Chimera (Catalog # 1652-CL) is coated onto a microplate at 4 µg/mL, Recombinant Human MICA Fc Chimera (Catalog # 1300-MA) binds with an ED_{50} of 1-6 µg/mL.

SDS-PAGE



2 µg/lane of Recombinant Human CLEC12B was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 54-66 kDa and 110-135 kDa, respectively.

BACKGROUND

C-type lectin domain family 12 member B (CLEC12B) is a member of the C-type lectin-like family of proteins. CLEC12B is widely expressed at low levels in various human tissues except in the brain (1, 2). A truncated version lacking a portion of the carbohydrate-recognition domain (CRD) has been detected in mammary gland, lung and ovary, and was predicted to be nonfunctional (1). CLEC12B is a cell surface receptor that may play a role in viral recognition and modulate signaling cascades due to the presence of an ITIM motif within its cytoplasmic tail (1-3). Human CLEC12B is synthesized as a 276 amino acid (aa) protein that includes a 43 aa cytoplasmic domain, a 21 aa transmembrane segment, and a 212 aa extracellular domain (ECD). Within the ECD, human CLEC12B shares 74% and 70% aa sequence identity with mouse and rat CLEC12B, respectively. The extracellular domain of CLEC12B shows considerable homology to the activating natural killer cell receptor NKG2D, and it antagonizes NKG2D mediated signaling through the ITIM motif (1). CLEC12B may be involved in limiting the activity of monocyte-derived immune cells after cell differentiation and possibly during inflammatory diseases. They play a role in HIV-1, mycobacterial, and *Candida* infections, and the coevolution of hosts and pathogens (4). Pathogen recognition by C-type lectins triggers signaling pathways that lead to the expression of specific cytokines which subsequently instruct adaptive T helper immune responses (4).

References:

1. Hoffmann, S. *et al.* (2007) J. Biol. Chem. **282**:22370.
2. Huysamen, C. *et al.* (2009) FEMS Microbiol. Lett. **290**:121.
3. Monteiro, J.T. and B. Lepenies (2017) Viruses **9**:59.
4. van den Berg, L.M. *et al.* (2012) Ann N Y Acad Sci. **1253**:149.

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