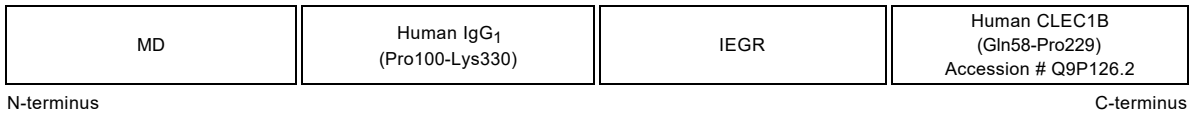
Recombinant Human CLEC-2/CLEC1B Fc Chimera

Catalog Number: 11211-CL

DESCRIPTION

Source

Chinese Hamster Ovary cell line, CHO-derived human CLEC-2/CLEC1B protein



N-terminal Sequence Analysis	Met1 of Fc Chimera
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	47 kDa

SPECIFICATIONS

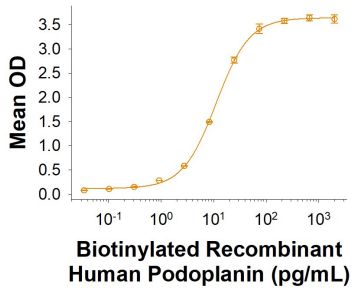
SDS-PAGE	56-65 kDa, under reducing conditions.
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human CLEC-2/CLEC1B Fc Chimera (Catalog # 11211-CL) is immobilized at 1 µg/mL (100 µL/well), Biotinylated Recombinant Human Podoplanin Fc Chimera binds with an ED_{50} of 6.00-60.0 pg/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>90%, 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 with Trehalose. 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	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 3 months, -20 to -70 °C under sterile conditions after reconstitution.

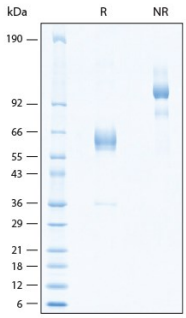
DATA

Binding Activity



Recombinant Human CLEC-2/CLEC1B Fc Chimera Protein Binding Activity. When Recombinant Human CLEC-2/CLEC1B Fc Chimera (Catalog # 11211-CL) is immobilized at 1 µg/mL (100 µL/well), Biotinylated Recombinant Human Podoplanin Fc Chimera binds with an ED50 of 6.00-60.0 pg/mL.

SDS-PAGE



Recombinant Human CLEC-2/CLEC1B Fc Chimera Protein SDS-PAGE. 2 µg/lane of Recombinant Human CLEC-2/CLEC1B Fc Chimera Protein (Catalog # 11211-CL) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 56-65 kDa and 110-130 kDa, respectively.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449

Recombinant Human CLEC-2/CLEC1B Fc Chimera

Catalog Number: 11211-CL

BACKGROUND

C-type lectin-like receptor 2 (CLEC-2) is a 32 kDa, type II transmembrane glycoprotein and member of the C-type lectin-like family of receptors (1-4). CLEC-2 consists of a 33 amino acid (aa) cytoplasmic domain, a 21 aa transmembrane region, and a 175 aa extracellular domain (SwissProt # Q9P126). The cytoplasmic domain contains multiple threonine and serine residues which are sites of potential phosphorylation, and a YXXL (Tyr-Xaa-Xaa-Leu) motif through which CLEC-2 does its signaling (2, 4-5). Ligand binding and cross-linking of CLEC-2 induces Src kinase-dependent tyrosine phosphorylation of the YXXL sequence, inducing activation of the tyrosine kinase Syk and initiation of a signaling pathway that culminates in activation of phospholipase Cγ2 (2, 5). The extracellular domain contains three potential sites of N-linked glycosylation, and a single carbohydrate recognition domain (CRD) which shows conservation of six cysteine residues (1, 6). Unlike most other members of the C-type lectin-like family of receptors, CLEC-2's CRD lacks the amino acid residues that are crucial for $Ca2^{+}$-dependent carbohydrate binding, making it a non-classical C-type lectin receptor (1, 6). A splicing variant at aa 22-55 produces two isoforms for CLEC-2. Isoform 1 is the longer protein, and in isoform 2, an alanine residue is substituted for aa 22-55. Human CLEC-2 shares 63% aa sequence identity with mouse CLEC-2. CLEC-2 is expressed preferentially in liver, and is also detected in myeloid cells (monocytes, dendritic cells, and granulocytes) (1), platelets, and megakaryocytes (4). CLEC-2 is the receptor for the platelet-aggregating snake venom protein rhodocytin (3 - 4) and the molecule podoplanin, a transmembrane sialoglycoprotein that, when bound to CLEC-2, is involved in platelet aggregation, tumor metastasis, and lymphatic vessel formation (2, 7). CLEC-2 has also been shown to enhance infectivity of HIV-1 by mediating HIV-1 attachment and transfer by CLEC-2 transfected cells and platelets (8).

References:

1. Colonna, M. *et al.* (2000) Eur. J. Immunol. **30**:697.
2. Christou, C.M. *et al.* (2008) Biochem. J. **411**:133.
3. Watson, A.A. *et al.* (2007) J. Biol. Chem. **282**:3165.
4. Suzuki-Inoue, K. *et al.* (2006) Blood **107**:542.
5. Fuller, G.L. *et al.* (2007) J. Biol. Chem. **282**:12397.
6. Weis, W.I. *et al.* (1998) Immunol. Rev. **163**:19.
7. Suzuki-Inoue, K. *et al.* (2007) J. Biol. Chem. **282**:25993.
8. Chaipan, C. *et al.* (2006) J. Virol. **80**:8951.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 **Canada** TEL 855 668 8722 **China** TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449