Human CLEC-2 Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF1718

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human CLEC-2 in direct ELISAs and Western blots. In direct ELISAs and Western blots, less than 1% cross-reactivity with recombinant human CLEC-1 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human CLEC-2 Gln58-Pro229 Accession # AAF36777
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	0.1 µg/mL	Recombinant Human CLEC-2 (Catalog # 1718-CL)

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile 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. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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. 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 Ca^{2+}-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:

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