

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human CLEC-2/CLEC1B in direct ELISAs and Western blots. In direct ELISAs, no cross-reactivity with recombinant human CLEC-1 is observed.
Source	Monoclonal Mouse IgG _{2B} Clone # 219150
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	NS0-derived recombinant human CLEC-2 extracellular domain Gln58-Pro229 Accession # AAF36777
Conjugate	Alexa Fluor 647 Excitation Wavelength: 650 nm Emission Wavelength: 668 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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.

Western Blot Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

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

Stability & Storage Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

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 Cy2 (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).

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