SANTA CRUZ BIOTECHNOLOGY, INC.

Dectin-1 (N-16): sc-26094

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The human β-glucan receptor (Dectin-1) is a small type II transmembrane receptor with a single extracellular carbohydrate recognition (lectin-like) domain and immunoreceptor tyrosine activation motif in its cytoplasmic tail. Dectin-1 exists as two major isoforms (A and B) which differ by the presence of a stalk region separating the carbohydrate recogition domain from the transmembrane region. The primary function of Dectin-1 is to enable β-glucan dependent, nonopsonic recognition of zymosan and other yeast-derived particles by primary macrophages. Dectin-1 also binds T-lymphocytes at a site distinct from the β-glucan binding site, indicating its ability to recognize both endogenous and exogenous ligands. The human Dectin-1B is expressed on the surfaces of several dendritic cell subpopulations during their development from peripheral blood monocytes and is also expressed on the surface of myeloid cell populations, specifically the monocyte/macrophage and neutrophil lineages. Dectin-1 is a target for examining the immunomodulatory properties of β-glucans for therapeutic drug design.

REFERENCES

1. Willment, J.A., et al. 2001. Characterization of the human β-glucan receptor and its alternatively spliced isoforms. J. Biol. Chem. 276: 43818-43823.
2. Gordon, S. 2002. Pattern recognition receptors: doubling up for the innate immune response. Cell 111: 927-930.
3. Grunebach, F., et al. 2002. Molecular and functional characterization of human Dectin-1. Exp. Hematol. 30: 1309-1315.
4. Brown, G.D., et al. 2002. Dectin-1 is a major β-glucan receptor on macrophages. J. Exp. Med. 196: 407-412.
5. Taylor, P.R., et al. 2002. The β-glucan receptor, Dectin-1, is predominantly expressed on the surface of cells of the monocyte/macrophage and neutrophil lineages. J. Immunol. 169: 3876-3882.
6. ENTREZ-PROTEIN (NP_072092). World Wide Web URL: http://www.ncbi.nlm.nih.gov:80/entrez

CHROMOSOMAL LOCATION

Genetic locus: CLEC7A (human) mapping to 12p13.2.

SOURCE

Dectin-1 (N-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Dectin-1 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-26094 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

Dectin-1 (N-16) is recommended for detection of Dectin-1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Dectin-1 siRNA (h): sc-63276, Dectin-1 shRNA Plasmid (h): sc-63276-SH and Dectin-1 shRNA (h) Lentiviral Particles: sc-63276-V.

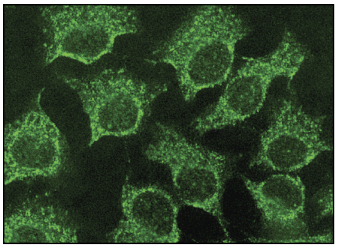
Molecular Weight of human Dectin-1: 33 kDa.

Molecular Weight of mouse Dectin-1: 43 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Dectin-1 (N-16): sc-26094. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Xu, S., et al. 2009. Activated dectin-1 localizes to lipid raft microdomains for signaling and activation of phagocytosis and cytokine production in dendritic cells. J. Biol. Chem. 284: 22005-22011.
2. Pedroza, L.A., et al. 2012. Autoimmune regulator (AIRE) contributes to Dectin-1-induced TNF-α production and complexes with caspase recruitment domain-containing protein 9 (CARD9), spleen tyrosine kinase (Syk), and Dectin-1. J. Allergy Clin. Immunol. 129: 464-472.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.