

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Dectin-2/CLEC6A in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant mouse Dectin-2α, recombinant human (rh) CLEC9A, rhCLEC4D, or rhDLEC is observed.
Source	Monoclonal Mouse IgG ₁ Clone # 545943
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Dectin-2/CLEC6A Thr46-Leu209 Accession # Q6EIG7
Conjugate	Alexa Fluor 594 Excitation Wavelength: 590 nm Emission Wavelength: 617 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and 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.

	Recommended Concentration	Sample
Flow Cytometry	0.25-1 µg/10 ⁶ cells	Human blood-derived monocytes

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

Dectin-2, also known as CLEC6A, CLECSF10, and NKCL, belongs to the C-type lectin family of transmembrane immune regulatory glycoproteins. Dectin-2, plus CLEC4A-E constitute a subgroup of molecules that exhibit approximately 40% amino acid (aa) sequence identity in their extracellular domains (ECD), and have a conserved cysteine spacing in their carbohydrate recognition domains (CRD) (1, 2). Mature human Dectin-2 is a type II transmembrane protein with a short cytoplasmic tail, a transmembrane segment, and a 168 aa ECD with a stalk region and one CRD (3, 4). Within the ECD, human Dectin-2 shares 71% and 75% aa sequence identity with bovine and mouse Dectin-2, respectively. An alternately spliced β isoform has a deletion of portions of the transmembrane and cytoplasmic regions (5). Full length Dectin-2 is a 27 kDa molecule that is expressed on monocytes, tissue macrophages, and activated CD4⁺ T cells (4-6). The CRD of Dectin-2 contains an EPN motif which is characteristic of calcium-dependent mannose-binding lectins. Dectin-2 selectively interacts with high mannose structures in the Man₉GlcNAc₂ configuration (7). It mediates the recognition of a variety of microorganisms, particularly the filamentous forms of yeast and fungi (7, 8). The short cytoplasmic tail does not contain signaling motifs but mediates association with the ITAM-containing Fc receptor γ subunit on macrophages (8). Ligand of Dectin-2 induces tyrosine phosphorylation of the γ subunit, activation of NFκB, and enhanced release of TNF-α and IL-1ra (8). Macrophage Dectin-2 is up-regulated *in vivo* by inflammatory stimuli and UV-B irradiation (5, 6, 9). Dectin-2 is known to participate in UV-induced immunosuppression by interacting with CD4⁺CD25⁺ regulatory T cells, which then induce dendritic cells to release IL-4, IL-10, and TGF-β (10).

References:

1. Kanazawa, N. (2007) J. Dermatol. Sci. **45**:77.
2. Kanazawa, N. *et al.* (2004) Immunobiology **209**:179.
3. Flornes, L.M. *et al.* (2004) Immunogenetics **56**:506.
4. Kanazawa, N. *et al.* (2004) J. Invest. Dermatol. **122**:1522.
5. Gavino, A.C. *et al.* (2005) Exp. Dermatol. **14**:281.
6. Taylor, P.R. *et al.* (2005) Eur. J. Immunol. **35**:2163.
7. McGreal, E.P. *et al.* (2006) Glycobiology **16**:422.
8. Sato, K. *et al.* (2006) J. Biol. Chem. **281**:38854.
9. Bonkobara, M. *et al.* (2005) Photochem. Photobiol. **81**:944.
10. Aragane, Y. *et al.* (2003) J. Immunol. **171**:3801.

Human Dectin-2/CLEC6A Alexa Fluor® 594-conjugated Antibody

Monoclonal Mouse IgG₁ Clone # 545943

Catalog Number: FAB3114T

100 µg

PRODUCT SPECIFIC NOTICES

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc, and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.