

Anti-hDectin-2-IgG

Neutralizing and detection monoclonal antibody against human Dectin-2

Catalog code: mabg-hdect2-2

<https://www.invivogen.com/anti-hdectin2>

For research use only, not for diagnostic or therapeutic use

Version 23L11-MM

PRODUCT INFORMATION

Contents: 2 x 100 µg of purified anti-hDectin-2-IgG, provided azide-free and lyophilized

Target: Human Dectin-2 (hDectin-2)

Specificity: No cross-reactivity with murine Dectin-2

Clone: Q7-4B5

Isotype: Mouse IgG2a

Light chain type: Kappa

Formulation: 0.2 µm filtered solution in a sodium phosphate buffer with glycine, saccharose, and stabilizing agents

Applications: Block/neutralize; Flow cytometry

Antibody resuspension (0.1 mg/ml)

Add 1 ml of sterile water per 100 µg vial.

Storage and stability

- Product is shipped at room temperature. Upon receipt, store lyophilized antibody at -20 °C.
- Reconstituted antibody is stable for 1 month at 4 °C and for 1 year at -20 °C. Avoid repeated freeze-thaw cycles.

Quality control

- This product has been validated for neutralization using cellular assays.
- Binding of Anti-hDectin-2-IgG to hDectin-2 on cells has been validated using flow cytometry.
- The absence of bacterial contamination (e.g. lipoproteins and endotoxins) has been confirmed using HEK-Blue™ TLR2 and HEK-Blue™ TLR4 cells.

BACKGROUND

Dectin-2 is a member of the C-type lectin receptor (CLR) family and plays an important role in antifungal innate immunity^{1,2}. CLRs comprise a large family of receptors that bind to carbohydrates in a calcium-dependent manner. The lectin activity of these receptors is mediated by conserved carbohydrate-recognition domains (CRDs). Dectin-2 is a type II transmembrane CLR with a single CRD domain. It binds high mannose-type carbohydrates and has been demonstrated to be the functional receptor for α-mannans.

Upon binding to its ligand, Dectin-2 signals through the kinase Syk and the adaptors CARD9/Bcl-10/MALT1 triggering the activation of NF-κB and the subsequent production of pro-inflammatory cytokines^{3,4}. Notably, it has been demonstrated that Dectin-2 is important for the induction of Th17 in response to fungal infection⁴.

1. Hou H. *et al.*, 2017. C-type Lectin Receptor: Old Friend and New Player. *Med Chem.* 2017;13(6):536-543. 2. Wang HL. *et al.*, 2017. Ligation of Dectin-2 with a novel microbial ligand promotes adjuvant activity for vaccination. *PLoS Pathog.* 213(8):e1006568. 3. Feinberg R. *et al.*, 2017. Mechanism of pathogen recognition by human dectin-2. *J Biol Chem.* 292(32):13402-13414. 4. Tang J. *et al.*, 2018. Regulation of C-Type Lectin Receptor-Mediated Antifungal Immunity. *Front Immunol.* 9:123.

DESCRIPTION

Anti-hDectin-2-IgG is a monoclonal mouse IgG2a antibody against hDectin-2. This antibody was screened for neutralization activity and flow cytometry. Anti-hDectin-2-IgG is produced in hybridomas and purified by affinity chromatography with protein G.

APPLICATIONS

Anti-hDectin-2-IgG can be used for neutralization and flow cytometry.

Neutralization

The concentration of antibody required to neutralize hDectin-2 activity is dependent on the Dectin-2 ligand, cell type and growth conditions. InvivoGen has determined the neutralization dose for this antibody using HEK293 cells that were transfected with human Dectin-2, genes of the Dectin-2 signaling pathway, and an NF-κB-inducible SEAP (secreted embryonic alkaline phosphatase) reporter gene.

Procedure for neutralization

1. Dispense 20 µl of a Dectin-2 ligand, such as furfurman suspension at various concentrations (100 ng-10 µg/ml) per well in a 96-well plate.
2. Ensure that the furfurman suspension is evenly distributed on the surface of the well.
3. Allow to dry for 1 hour at 70 °C.
4. In another 96-well plate, add 20 µl of Anti-hDectin-2-IgG or control antibody (100 ng-10 µg/ml final concentration) per well.
Note: We recommend using Mouse IgG2a Control (which targets E. coli β-galactosidase) as a negative control.
5. Add 160 µl of cell suspension (~50,000 cells) per well.
6. Incubate for 1 hour at 37 °C.
7. Following this incubation, transfer 180 µl of the antibody and cell suspension per well of the furfurman coated 96-well plate.
6. Incubate for 18-24 hours at 37 °C.
7. Add 20 µl of supernatant to 180 µl QUANTI-Blue™ Solution in another 96-well plate.
8. Incubate for 1-3 hours at 37 °C.
9. Assess SEAP levels with the naked eye or spectrophotometrically by reading the optical density (OD) at 655 nm.

Flow cytometry

This antibody was used at 500-2000 ng/10⁶ cells with a goat anti-mouse IgG-PE secondary antibody for indirect immunofluorescence staining of cell expressing hDectin-2.

RELATED PRODUCTS

Product	Description	Cat. Code
Furfurman	Dectin-2 ligand	tlrl-ffm
Mouse IgG2a Control	Isotype control antibody	mabg2a-ctrlIm
QUANTI-Blue™ Solution	SEAP detection reagent	rep-qbs

TECHNICAL SUPPORT

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