

Anti-hDectin-1-IgG

Neutralizing and detection monoclonal antibody against human Dectin-1

Catalog code: mabg-hdect-2

<https://www.invivogen.com/anti-hdectin1-igg>

For research use only, not for diagnostic or therapeutic use

Version 23L11-MM

PRODUCT INFORMATION

Contents: 2 x 100 µg purified anti-hDectin-1-IgG, provided azide-free and lyophilized

Target: Human Dectin-1 (hDectin-1)

Specificity: No cross-reactivity with murine Dectin-1

Clone: 22H8

Isotype: Mouse IgG1

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-1-IgG to hDectin-1 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-1 is a member of the C-type lectin receptor (CLR) family and plays an important role in antifungal innate immunity. Dectin-1 is expressed on phagocytic cells, including macrophages and neutrophils. The human Dectin-1 receptor is expressed as two predominant isoforms A and B¹. Dectin-1 is a specific receptor for β-glucans². β-Glucans are glucose polymers found in the cell walls of fungi, including the yeasts *Saccharomyces cerevisiae* and *Candida albicans*. Upon binding to its ligand, Dectin-1 triggers phagocytosis and the CARD9-Bcl10-Malt1 signaling leading to the production of reactive oxygen species (ROS), the activation of NF-κB and the subsequent production of pro-inflammatory cytokines^{3,4}. Dectin-1 signaling has been shown to collaborate with Toll-like receptor 2 (TLR2) signaling to enhance the responses triggered by each receptor^{4,5}.

1. Herre J. et al., 2004. The role of Dectin-1 in antifungal immunity. Crit Rev Immunol. 24(3):193-204. 2. Brown GD. et al., 2003. Dectin-1 mediates the biological effects of betaglacans. J Exp Med. 197:1119-24. 3. Gross O. et al., 2006. Card9 controls a non-TLR signaling pathway for innate anti-fungal immunity. Nature. 442:651-6. 4. Dennehy KM. & Brown GD., 2007. The role of the beta-glucan receptor Dectin-1 in control of fungal infection. J Leukoc Biol. 82(2):253-8. 5. Gantner BN. et al., 2003. Collaborative induction of inflammatory responses by dectin-1 and Toll-like receptor 2. J Exp Med. 197:1107-17.

TECHNICAL SUPPORT

InvivoGen USA (Toll-Free): 888-457-5873

InvivoGen USA (International): +1 (858) 457-5873

InvivoGen Europe: +33 (0) 5-62-71-69-39

InvivoGen Asia: +852 3622-3480

E-mail: info@invivogen.com

DESCRIPTION

Anti-hDectin-1-IgG is a monoclonal mouse IgG1 antibody against hDectin-1. Anti-hDectin-1-IgG recognizes hDectin-1 isoforms A and B. This antibody was screened for neutralization activity and flow cytometry. Anti-hDectin-1-IgG is produced in hybridomas and purified by affinity chromatography with protein G.

APPLICATIONS

Anti-hDectin-1-IgG can be used for neutralization and flow cytometry.

Neutralization

The concentration of antibody required to neutralize hDectin-1 activity is dependent on the Dectin-1 ligand, cell type and growth conditions. InvivoGen has determined the neutralization dose for this antibody using HEK-Blue™ Dectin-1b cells. These HEK293 cells stably express high levels of human Dectin-1 isoform B, genes involved in the Dectin-1-NF-κB signaling pathway, and an NF-κB-inducible SEAP (secreted embryonic alkaline phosphatase) reporter gene.

Procedure for neutralization using HEK-Blue™ hDectin-1b cells

1. Add 100 µl of growth medium per well of a 96-well plate.
2. Add 50 µl of Anti-hDectin-1-IgG or control antibody (100 ng-10 µg/ml final concentration) per well.
Note: We recommend using Mouse IgG1 Control (which targets E. coli β-galactosidase) as a negative control.
3. Add 100 µl of cell suspension (~50,000 cells) per well.
4. Incubate for 1 hour at 37 °C.
5. Add 50 µl of a Dectin-1 ligand such as HKCA (10⁶ cells/ml final concentration).
6. Incubate for 18-24 hours at 37 °C.
7. Add 20 µl of supernatant to 180 µl QUANTI-Blue™ Solution in a 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 HEK-Blue™ hDectin-1b cells.

RELATED PRODUCTS

Product	Description	Cat. Code
HEK-Blue™ hDectin-1b Cells	Reporter cells	hkb-hdect1b
HKCA	Heat-killed <i>C. albicans</i>	tlrl-hkca
Mouse IgG1 Control	Isotype control antibody	mabg1-ctrlm
QUANTI-Blue™ Solution	SEAP detection reagent	rep-qbs