

Anti-hDectin-1-IgG

Neutralizing monoclonal antibody against human Dectin-1

Catalog # mabg-hdect

For research use only, not for diagnostic or therapeutic use

Version # 15B24-MM

PRODUCT INFORMATION

Content

100 µg purified anti-hDectin-1-IgG, provided azide-free and lyophilized

Clone: 22H8

Isotype: Mouse IgG1

Formulation: 0.2 µm filtered solution in 68 mM phosphate buffer with 91 mM glycine, 5% w/v saccharose and stabilizing agents

Antibody resuspension

Add 1 ml of sterile water to obtain a concentration of 0.1 mg/ml.

Storage

- Product is shipped at room temperature. Store lyophilized antibody at -20°C. Lyophilized product is stable for at least 1 year when properly stored.

- Reconstituted antibody is stable 1 month when stored at 4°C and 1 year when aliquoted and stored at -20°C. Avoid repeated freeze-thaw cycles.

Quality control

- The absence of bacterial contamination (e.g. lipoproteins and peptidoglycans) has been confirmed using HEK-Blue™ TLR2 and HEK-Blue™ TLR4 cells.

- The antibody has been validated for neutralization and flow cytometry using HEK-Blue™ Dectin-1 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 beta-glucans. *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.

DESCRIPTION

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

APPLICATION

Anti-hDectin-1-IgG is a neutralizing antibody, it blocks hDectin-1-induced cellular activation. Anti-hDectin-IgG can also be used for flow cytometry.

Applications tested

1. Anti-hDectin-1-IgG has been tested in neutralizing experiments performed in HEK293 cells that were transfected with the hDectin-1 gene and other genes from the Dectin-1 signaling pathway. These cells also stably express a secreted embryonic alkaline phosphatase (SEAP) reporter gene.

Transfected cells were incubated with 100 ng - 10 µg/ml anti-hDectin-1-IgG for 1 hour prior to the addition of the Dectin-1 ligand HKCA (10⁸ cells/ml).

Following an overnight incubation, neutralization of Dectin-1 signaling by anti-hDectin-1-IgG was determined by assessing SEAP production using QUANTI-Blue™, a SEAP detection medium. QUANTI-Blue™ turns blue following Dectin-1 stimulation but remains pink if neutralization occurs.

2. For flow cytometry, anti-hDectin-IgG has been tested at 500 - 2000 ng/10⁶ cells with PE goat anti-mouse IgG1 secondary antibody for indirect immunofluorescence staining.

RELATED PRODUCTS

Product	Catalog Code
pUNO1-hDectin1a	puno-hdectin1a
pUNO-hDectin1b	puno-hdectin1b
QUANTI-Blue™	rep-qb1
Dectin-1 Agonists	
Curdlan AL	tlrl-cura
HKCA (Heat killed <i>C. albicans</i>)	tlrl-hkca
HKSC (Heat killed <i>S. cerevisiae</i>)	tlrl-hksc
WGP Dispersable (Whole Glucan particles)	tlrl-wgp
Zymosan Depleted	tlrl-dzn

TECHNICAL SUPPORT

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