**MONOCLONAL ANTIBODY TO MOUSE DECTIN-1 (BETA-GLUCAN RECEPTOR)**
clon e 2A11

**Catalog no**  
HM1067 (lot number and expiry date are indicated on the label)

**Description**  
The monoclonal antibody 2A11 recognizes mouse β-glucan receptor, also known as dectin-1. Dectin-1 is a small type II transmembrane receptor containing one lectin-like carbohydrate recognition domain. This domain recognizes β1,3- and/or β1,6-linked glucans, intact yeast and an immunoreceptor tyrosine-based activation motif (ITAM) in the cytoplasmic tail. β-Glucan is one of the most abundant polysaccharides in fungal pathogens. By recognizing β-glucan, dectin-1 has a fundamental function in antifungal immunity. Dectin-1 is a signaling non-Toll-like pattern-recognition receptor required for the induction of protective immune responses. Dectin-1 is responsible for the β-glucan-dependent, nonopsonic recognition of zymosan by primary macrophages. Zymosan is a yeast derived particle composed principally of polysaccharides, of which β-glucan and mannan are the major constituents. In vivo administration of zymosan, or purified soluble β-glucans, has a number of desirable effects on immune function, including the ability to confer resistance to tumors and various infections. The receptor is highly expressed on macrophages and neutrophils and to a lesser extent on dendritic cells and a subpopulation of T cells. Dectin-1 participates with the complement receptor CR3 in a host proinflammatory cytokine response to a fungal pathogen. The monoclonal antibody 2A11 recognizes an extracellular epitope on dectin-1.

**Aliases**  
beta-glucan receptor

**Immunogen**  
NIH 3T3 cells transduced with full-length Dectin-1

**Species**  
Rat IgG2b

**Formulation**  
1 ml (100 µg/ml) 0.2 µm filtered antibody solution in PBS, containing 0.1% bovine serum albumin.

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N.D. = Not Determined; F = Frozen sections; FC = Flow Cytometry; FS = Functional Studies; IA = Immuno Assays; IF = Immuno Fluorescence; IP = Immuno Precipitation; P = Paraffin sections; W = Western blot

**Application notes**  
FC: Antibody 2A11 stains the extracellular domain of mouse dectin-1. For intracellular staining mouse macrophages were permeabilized with IntraPrep. The macrophages were incubated with 1 µg/ml antibody for 1 hr at 4 °C. (Ref.4)

IH-F: Tissue sections were frozen in Tissue-Tek and fixed in acetone. As positive control lymph nodes were used (Ref.5).

FS: Antibody 2A11 functions as inhibitor of phagocytosis by zymosan. The antibody was functionally tested by endocytosis assays. The biological activity of the antibody can be defined as the percentage phagocytosis inhibition (Ref.7).

**References**  
5. Dupasquier, M et al; The dermal microenvironment induces the expression of the alternative activation marker CD301/mMGL in mononuclear phagocytes, independent of IL-4/IL-13 signaling. J Leukoc Biol 2006, 80: 838
Use
For immunohistochemistry and flow cytometry, dilutions to be used depend on detection system applied. It is recommended that users test the reagent and determine their own optimal dilutions. The typical starting working dilution is 1:50. For functional studies, in vitro dilutions have to be optimized in user’s experimental setting.

Positive control
Mouse primary macrophages

Storage and stability
Product should be stored at 4°C. Under recommended storage conditions, product is stable for at least one year. The exact expiry date is indicated on the label.

Precautions
For research use only. Not for use in or on humans or animals or for diagnostics. It is the responsibility of the user to comply with all local/state and federal rules in the use of this product. Hycult Biotech is not responsible for any patent infringements that might result from the use or derivation of this product.

Also available
HM1061  Monoclonal antibody against Mouse SR-A, clone 2F8
HM1066  Monoclonal antibody against Mouse Macrophages, F4/80, clone BM8
HM1068  Monoclonal antibody against Mouse MARCO, ED31
HM1070  Monoclonal antibody against Mouse CD68, clone FA-11