

Anti-Mouse Dendritic Cells Purified *in vivo* GOLD™ Functional Grade Monoclonal Antibody

Product Information

Product No.: D112
Clone: 33D1
RRID: AB_2737490
Isotype: Rat IgG2b κ
Storage: Sterile 2-8°C

Product Description

Specificity:

Clone 33D1 recognizes mouse DCIR2.

Antigen Distribution:

Murine DCIR2 is found on dendritic cells of the thymus, spleen, lymph nodes, and Peyer's patches. DCs in the bone marrow may express DCIR2 in the presence of GM-CSF. However, this expression is notably downregulated when IL-4 is present. Furthermore, DCIR2 has been found *In vivo* on brain dendritic cells post infection with *T. gondii*.

Background:

Dendritic cells are antigen presenting cells that have two functions. They scan the body collecting and processing antigen material that they present on the cell surface to T cells, and they maintain T cell tolerance to "self". The morphology of dendritic cells is characterized by an extremely large surface-to-volume ratio. Murine splenic dendritic cells can occur in two types: myeloid (cDC) and lymphoid (pDC). Lymphoid dendritic cells produce high amounts of IFN- α and are also called Plasmacytoid dendritic cell because they have an appearance similar to plasma cells. Myeloid, or conventional dendritic cells, secrete IL-12, IL-6, TNF, and chemokines and can be further categorized into three subtypes (CD4-CD8+, CD4+CD8- and CD4-CD8-). These differ from other migratory dendritic cells such as Langerhans cells and interstitial dendritic cells that migrate from peripheral tissues to the lymph nodes. The exact nature and biological activity of the dendritic cell surface marker DCIR2 is currently unknown. DCs are known to play a role in several diseases including myeloid cancer, pDC leukemia, HIV, lupus erythematosus, Crohn's disease and ulcerative colitis. However, it is thought that DCs may be able to control cancer progression because increased densities of DC populations have been linked with better clinical outcome. Lung cancers have been found to include four different subsets of dendritic cells; some of which can activate immune cells that can suppress tumor growth. Dendritic cells have also been shown to play a role in the success of cancer immunotherapies in experimental models. Specifically, the immune checkpoint blocker anti-PD-1 has been shown to indirectly activate DCs through IFN- γ released from drug-activated T cells. Agonizing the non-canonical NF- κ B pathway also activates DCs and further enhances anti-PD-1 therapy in an IL-12-dependent manner.

Known Reactivity Species:

Mouse

Format:

in vivo GOLD™, Purified *in vivo* Functional Grade

Immunogen:

Dendritic cells

Formulation

This monoclonal antibody is aseptically packaged and formulated in 0.01 M phosphate buffered saline (150 mM NaCl) PBS pH 7.2 - 7.4 with no carrier protein, potassium, calcium or preservatives added. Due to inherent biochemical properties of antibodies, certain products may be prone to precipitation over time. Precipitation may be removed by aseptic centrifugation and/or filtration.

Products are for research use only. Not for use in diagnostic or therapeutic procedures.

Product Datasheet

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Purity

≥95% monomer by analytical SEC, >95% by SDS Page

Endotoxin

< 1.0 EU/mg as determined by the LAL method

Storage and Stability

Functional grade preclinical antibodies may be stored sterile as received at 2-8°C for up to one month. For longer term storage, aseptically aliquot in working volumes without diluting and store at ≤ -70°C. **Avoid Repeated Freeze Thaw Cycles.**

Product Preparation

Functional grade preclinical antibodies are manufactured in an animal free facility using *in vitro* cell culture techniques and are purified by a multi-step process including the use of protein A or G to assure extremely low levels of endotoxins, leachable protein A or aggregates.

Country of Origin

USA

References

Steinman, R. M. *et al.* (1982) *Pro. Natl. Acad. Sci. USA* **79**:161 Steinman, R. M. *et al.* (1983) *J. Exp. Med.* **157**:613
Nussenzweig *et al.* 1982. *Proc Natl Acad Sci U S A.* 79(1):161-5. PMID: 6948298.

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