

Anti-Mouse CD276 [Clone MJ18] — Purified *in vivo* GOLD™ Functional Grade

Monoclonal Antibody

Product Information

Product No.:	C3346
Clone:	MJ18
Isotype:	Rat Rat IgG1 κ
Storage:	Sterile 2-8°C

Product Description

Specificity:

MJ18 activity is directed against mouse CD276 also known as B7-H3.

Antigen Distribution:

CD276 is weakly expressed on activated lymphocytes, macrophages, dendritic cells, nasal and airway epithelial cells, osteoblasts, and some tumor cell lines. A soluble form is secreted by monocytes, dendritic cells, and activated T cells.

Background:

CD276, also known as B7 homolog 3 protein (B7-H3), is a member of the B7 superfamily and acts as an immune checkpoint molecule and a costimulatory/coinhibitory immunoregulatory protein¹. CD276 influences innate and adaptive immunity, regulates the aggressiveness of cancer cells, and is thought to play an important role in tumor development and cancer immunity. CD276 has been studied in many cancers, including breast, lung, ovarian, brain, gastric, and squamous cell carcinoma.

Human CD276 exists as either a soluble isoform or as a ~45–66 kDa type I transmembrane protein that is composed of an extracellular domain, a transmembrane domain, and a short intracellular domain¹. In murine CD276, the extracellular domain is composed of a single pair of immunoglobulin variable and constant domains. Soluble CD276 is produced by cleavage from the cell surface or via alternative intron splicing and has been found in the secretomes of exosomes and other extracellular vesicles.

In normal human tissues, CD276 mRNA is widely and abundantly expressed but protein abundance is low¹. miR-124 is thought to cause translational repression of CD276 by targeting its 3'-UTR, while other miRNAs are known to affect CD276 expression. In contrast, in tumor cells, CD276 mRNA and protein are abundant, and its presence is correlated with worsened prognosis, poor survival, recurrence rate, and enhanced invasive and migratory properties. CD276 blocking with monoclonal antibodies has been shown to reduce tumor growth and prolong survival in mouse models of various cancers. TREM-like transcript 2 (TLT-2) has been identified as a potential receptor².

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

Product Datasheet

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MJ18 was generated by immunizing Sprague Dawley rats with aa 1–242 of mouse CD276 extracellular domain linked to the Fc portion of mouse IgG2a³. After immunization, lymph node cells were fused with P3U1 myeloma cells, hybridomas were selected by flow cytometry, and MJ18 was purified from ascites.

Known Reactivity Species:

Mouse

Format:

Purified in vivo Functional Grade, in vivo PLATINUM™

Immunogen:

Mouse B7-H3 IgG2a fusion protein

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.

Purity

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

Endotoxin

<1.0 EU/μg 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.

Applications

Applications and Recommended Usage (Quality Tested By Leinco):

FC

Other Applications Reported in Literature:

B

FC

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Product Datasheet

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Country of Origin

USA



References

1. Zhou WT, Jin WL. Front Immunol. 12:701006. 2021.
2. Hashiguchi M, Kobori H, Ritprajak P, et al. Proc Natl Acad Sci USA. 105: 10495–10500. 2008.
3. Nagashima O, Harada N, Usui Y, et al. J Immunol. 181(6):4062-71. 2008.
4. Yamato I, Sho M, Nomi T, et al. Br J Cancer. 101(10):1709-1716. 2009.
5. Kamachi F, Isshiki T, Harada N, et al. Biochem Biophys Res Commun. 463(4):739-45. 2015.

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