

# Mouse CD40 Antibody

Purified *in vivo* PLATINUM™ Functional Grade

Monoclonal Antibody

## Product Information

**Product No.:** F1195  
**Clone:** FGK45  
**RRID:** AB\_2830170  
**Isotype:** Rat IgG2a  
**Storage:** Sterile 2-8°C

## Product Description

### Specificity:

Clone FGK45 recognizes an epitope on mouse CD40.

### Antigen Distribution:

CD40 is widely expressed on antigen-presenting cells such as dendritic cells, B cells, macrophages, and monocytes, in addition to non-immune endothelial cells, basal epithelial cells, and a variety of tumors.

### Background:

CD40, also known as TNFSF5, is a type I transmembrane protein and member of the TNF receptor family. The binding of CD40L (CD154) on TH cells to CD40 activates antigen presenting cells and induces a variety of downstream effects (1). CD40 is expressed on B cells, dendritic cells, monocytes, thymic epithelial cells and, at low levels, on T cells (2). Signaling through CD40 plays an important role in the proliferation and differentiation of B cells and is critical for immunoglobulin (Ig) class switching (3). The membrane-anchored CD40L is expressed almost exclusively on activated CD4+ T lymphocytes. Failure to express CD40L leads to "immunodeficiency with hyper-IgM", a disease characterized by failure to produce IgG, IgA and IgE. Some of the early intracellular signaling by the CD4-CD40L system includes the association of the CD40 with TRAFs and the activation of various kinases (4). Adaptor protein TNFR2 interacts with this receptor and serves as a mediator of the signal transduction. The interaction of CD4-CD40L is found to be necessary for amyloid-beta-induced microglial activation, and thus is thought to be an early event in Alzheimer disease pathogenesis.

### Known Reactivity Species:

Mouse

### Format:

Purified *in vivo* PLATINUM™ Functional Grade

### Immunogen:

Recombinant Mouse CD40 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

≥98% monomer by analytical SEC, >95% by SDS Page

## **Endotoxin**

<0.5 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  $\leq -70^{\circ}\text{C}$ .

**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.

## **Pathogen Testing**

To protect mouse colonies from infection by pathogens and to assure that experimental preclinical data is not affected by such pathogens, all of Leinco's Purified Functional PLATINUM™ antibodies are tested and guaranteed to be negative for all pathogens in the IDEXX IMPACT I Mouse Profile.

## **Country of Origin**

USA