*InVivo*Pro Anti-Mouse CD40 *in vivo* antibody, Clone FGK45

Cat #: IV0116 **Size: 1mg, 5mg, 25mg, 50mg, 100mg**

Product Information

Isotype:	Rat IgG2a
Reactivity:	Mouse
Formulation:	PBS, pH 7.2, contains no stabilizers or preservatives
Concentration:	Lot specific, generally ≥ 5.0 mg/ml
Applications:	*In vivo* CD40 activation, *in vitro* B cell stimulation/activation, Flow cytometry
Recommended Isotype Control:	IV0105 or Rat IgG2a Isotype Control
Endotoxin:	≤ 1.0 EU/mg, by the LAL method
Purity:	99%
Sterility:	0.2 µM filtered
Purification:	Protein A or G
Recommended Dose Range:	200-500 µg per mouse; or 10-20 mg/kg. This range is based off the most recent publication data using the FGK45 clone *in vivo*. Each investigator should determine their own optimal working dilution for specific applications.
Storage:	This antibody is stable for at least 2 months when stored at 2-8°C. For long term storage, aliquot in working volumes without diluting and store at -20°C or -80°C. Avoid repeated freeze thaw cycles.

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. CD40 is expressed on B cells, dendritic cells, monocytes, thymic epithelial cells and, at low levels, on T cells. Signaling though CD40 plays an important role in the proliferation and differentiation of B cells and is critical for immunoglobulin (Ig) class switching. 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.

Note: The product listed herein is for research use only and is not intended for use in human or clinical diagnosis.