

Active Recombinant Rat Cd40 Protein, His-tagged

Cat. No. Cd40-11042R **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Rat CD40, His Tag is expressed from human 293 cells (HEK293). It contains AA Val 24 - Arg 193 (Accession # Q4QQW2-1). This protein carries a polyhistidine tag at the C-terminus. Predicted N-terminus: Val 24
Species	Rat
Source	HEK293
ProteinLength	24-193 aa
Description	CD40 is also known as TNFRSF5, Bp50, CDW40, MGC9013, TNFRSF5 and p50, is a member of the TNF receptor superfamily which are single transmembrane-spanning glycoproteins, and plays an essential role in mediating a broad variety of immune and inflammatory responses including T cell-dependent immunoglobulin class switching, memory B cell development, and germinal center formation. CD40 is a costimulatory protein found on antigen presenting cells and is required for their activation. The binding of CD154 (CD40L) on TH cells to CD40 activates antigen presenting cells and induces a variety of downstream effects. CD40 contains 4 cysteine-rich repeats in the extracellular domain, and is expressed in B cells, dendritic cells, macrophages, endothelial cells, and several tumor cell lines. The extracellular domain has the cysteine-rich repeat regions, which are characteristic for many of the receptors of the TNF superfamily. Interaction of CD40 with its ligand, CD40L, leads to aggregation of CD40 molecules, which in turn interact with cytoplasmic components to initiate signaling pathways. Early studies on the CD40-CD40L system revealed its role in

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humoral immunity. Defects in CD40 result in hyper-IgM immunodeficiency type 3 (HIGM3), an autosomal recessive disorder characterized by an inability of B cells to undergo isotype switching, as well as an inability to mount an antibody-specific immune response, and a lack of germinal center formation.

Form	Lyophilized from 0.22 µm filtered solution in PBS, pH7.4 with trehalose as protectant.
Bio-activity	Immobilized Rat CD40, His Tag at 5 µg/mL (100 µL/well) can bind Human CD40 Ligand Protein, Fc Tag, premium grade with a linear range of 4-125 ng/mL.
Molecular Mass	The protein has a calculated MW of 20.7 kDa. The protein migrates as 23 kDa and 25-29 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.
Endotoxin	Less than 1.0 EU/µg by the LAL method/rFC method.
Purity	>95% as determined by SDS-PAGE. >95% as determined by SEC-MALS.
Storage	This product is stable after storage at: -20 to -70 centigrade for 12 months in lyophilized state; -70 centigrade for 3 months under sterile conditions after reconstitution. For long term storage, the product should be stored at lyophilized state at -20 centigrade or lower. Please avoid repeated freeze-thaw cycles.
Reconstitution	It is recommended that sterile water be added to the vial to prepare a stock solution of 0.2 µg/µL. Centrifuge the vial at 4 centigrade before opening to recover the entire contents.

GENE INFORMATION

Gene Name	Cd40 CD40 molecule, TNF receptor superfamily member 5 [Rattus norvegicus]
Official Symbol	CD40

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Synonyms	CD40; CD40 molecule, TNF receptor superfamily member 5; tumor necrosis factor receptor superfamily member 5; CD40 antigen, TNF receptor superfamily member 5; tumor necrosis factor receptor superfamily, member 5; Tnfrsf5;
Gene ID	171369
mRNA Refseq	NM_134360
Protein Refseq	NP_599187
UniProt ID	Q4QQW2

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