

DESCRIPTION

Source	Chinese Hamster Ovary cell line, CHO-derived human OX40/TNFRSF4 protein		
	Human OX40/TNFRSF4 (Leu29-Ala216) Accession # P43489.1	7-His tag	Avi-tag
	N-terminus		C-terminus
N-terminal Sequence	Leu29		
Analysis			
Structure / Form	Biotinylated via Avi-tag		
Predicted Molecular Mass	23 kDa		

SPECIFICATIONS

SDS-PAGE	40-46 kDa, under reducing conditions
Activity	The biotin to protein ratio is greater than 0.7 as determined by the HABA assay. Measured by its binding ability in a functional ELISA. When Recombinant Human OX40 Ligand/TNFSF4 (Catalog # 1054-OX) is immobilized at 1.00 µg/mL (100 µL/well), Biotinylated Recombinant Human OX40/TNFRSF4 His-tag Avi-tag binds with an ED ₅₀ of 150-900 ng/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 500 µg/mL in PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 3 months, -20 to -70 °C under sterile conditions after reconstitution.

DATA

Binding Activity

Biotinylated Recombinant Human OX40/TNFRSF4 His-tag Avi-tag Protein Binding Activity. When Recombinant Human OX40 Ligand/TNFSF4 (Catalog # 1054-OX) is immobilized at 1.00 µg/mL (100 µL/well), Biotinylated Recombinant Human OX40/TNFRSF4 His-tag Avi-tag (Catalog # AVI9969) binds with an ED₅₀ of 150-900 ng/mL.

SDS-PAGE

Biotinylated Recombinant Human OX40/TNFRSF4 His-tag Avi-tag Protein SDS-PAGE. 2 µg/lane of Biotinylated Recombinant Human OX40/TNFRSF4 His-tag Avi-tag (Catalog # AVI9969) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 40-46 kDa.

BACKGROUND

OX40 (CD134; TNFRSF4) is a T cell co-stimulatory molecule of the TNF receptor superfamily that coordinates with other co-stimulators (CD28, CD40, CD30, CD27 and 4-1BB) to manage the activation of the immune response (1-3). Human OX40 is a 48 kDa type I transmembrane glycoprotein with a 28 amino acid (aa) signal sequence, a 185 aa extracellular domain (ECD) that contains a cysteine-rich region, a 20 aa transmembrane segment, and a 41 aa cytoplasmic domain (4). The ECD of human OX40 shares 63% sequence identity with the ECD of mouse and rat OX40. OX40 is up-regulated on CD4⁺ and CD8⁺ T cells upon engagement of the TCR by antigen presenting cells along with co-stimulation by CD40-CD40 Ligand and CD28-B7 (5, 6). OX40 Ligand is primarily expressed on antigen presenting cells (5). OX40 Ligand engagement of OX40 on activated CD4⁺ T cells results in increased T cell survival, proliferation, and cytokine production. It also inhibits the conversion of effector T cells into immunosuppressive regulatory T cells (Tregs) and can promote the maintenance of and recall response in memory T cells (3, 7-10). OX40 is constitutively expressed on Tregs and enhances the sensitivity of Tregs to IL-2, thus promoting Treg proliferation. OX40 has also been shown to decrease the cells' immunosuppressive activity on effector T cells (11-14). OX40-OX40 Ligand signaling is involved in allergic airway inflammation, graft-versus-host disease and autoimmune disease (6, 15, 16). Mutations in OX40 and OX40 Ligand are associated with cardiovascular disease (17, 18). Our Avi-tag Biotinylated human OX40/TNFRSF4 Hi-tag features biotinylation at a single site contained within the Avi-tag, a unique 15 amino acid peptide. Protein orientation will be uniform when bound to streptavidin-coated surface due to the precise control of biotinylation and the rest of the protein is unchanged so there is no interference in the protein's bioactivity.

References:

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