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Human OX40L (CD252) Protein (N-His)

Catalog Number:	605201, 605202
Size:	25 ug, 100 ug
Target Name:	OX40L, TNFSF4, CD252, TXGP1, CD134 ligand, , Glycoprotein Gp34
Regulatory Status:	RUO

PRODUCT DETAILS

Application:	ELISA, BLI
Format:	Liquid, Purified
Expression Host:	CHO
Species:	Human
Accession Number:	P23510
Sources:	Recombinant Human OX40L (Gln51-Leu183) with N-terminus His tag is expressed in CHO cells.
Molecular Weight:	This protein has a predicted molecular weight of 17.6 kDa. Under DTT-reducing conditions, the protein migrates at approximately 25 kDa on SDS-PAGE.
Affinity Tag:	N-His
Purity:	>95% based on SDS-PAGE under reducing condition
Formulation:	1xPBS buffer, pH7.4, 0.22 μm filtered
Endotoxin level:	Not tested
Protein Concentration:	25μg size is bottled at 0.2mg/mL concentration. 100 μg size is supplied at a lot-specific concentration.
Storage and Handling:	Briefly centrifuge the vial upon receipt. An unopened vial can be stored at 4°C for up to 2 weeks, or at -20°C or below for up to six months. The protein may be further diluted to 0.1 mg/mL using 0.22 μm-filtered PBS buffer (pH 7.4). For long-term storage, the diluted stock solution should be aliquoted and stored at ≤ –70°C to minimize freeze-thaw cycles. If additional dilution is required, carrier proteins such as FBS or BSA should be added to maintain protein stability.

BACKGROUND INFORMATION

OX40 ligand (OX40L), also known as CD252 and encoded by the TNFSF4 gene, is a type II transmembrane protein belonging to the tumor necrosis factor (TNF) superfamily. It is primarily expressed on activated antigen-presenting cells, including dendritic cells, B cells, macrophages, and endothelial cells. OX40L serves as the cognate ligand for OX40 (CD134), a costimulatory receptor expressed on activated $CD4^+$ and $CD8^+$ T cells. Engagement of OX40 by OX40L delivers a potent secondary signal that enhances T cell proliferation, survival, cytokine production, and memory T cell formation, thereby amplifying adaptive immune responses.

Structurally, OX40L is a ~34 kDa protein with a short N-terminal cytoplasmic domain, a single transmembrane region, and a C-terminal extracellular TNF homology domain. Like other TNF superfamily ligands, OX40L forms stable homotrimers on the cell

surface. This trimeric structure is essential for effective receptor clustering and signaling through OX40. Binding of OX40L to OX40 promotes recruitment of TNF receptor–associated factors (TRAFs) to the receptor cytoplasmic tail, activating downstream NF-κB, PI3K–Akt, and MAPK pathways that support T cell expansion and survival.

The principal ligand of OX40L is OX40 (CD134), expressed transiently on activated T cells. Through this interaction, OX40L regulates effector and memory T cell responses and can influence regulatory T cell (Treg) function. While critical for protective immunity against infections, excessive or prolonged OX40–OX40L signaling has been implicated in autoimmune and inflammatory diseases, including asthma, atopic dermatitis, systemic lupus erythematosus, and multiple sclerosis. Genetic variants in TNFSF4 have also been associated with susceptibility to autoimmune disorders.

Therapeutically, OX40L is a target in both immuno-oncology and immune-mediated disease. In cancer, agonistic strategies that enhance OX40 signaling aim to boost antitumor T cell responses, often in combination with checkpoint inhibitors. Conversely, antagonistic antibodies or biologics that block OX40L–OX40 interactions are being developed to dampen pathogenic T cell activation in autoimmune and allergic conditions. By modulating T cell costimulation, OX40L-directed therapies offer a versatile approach to either amplify or restrain immune responses depending on clinical need.

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