PRODUCT INFORMATION

OX40/CD134 (human, recombinant)

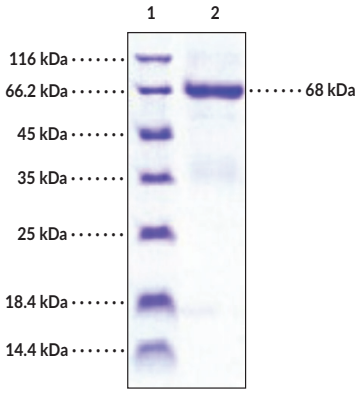
Item No. 31842

Overview and Properties

Synonyms:	ACT35, IMD16, TNFRSF4, Tumor Necrosis Factor Receptor Superfamily Member 4 Precursor, TXGP1L
Source:	Active recombinant C-terminal human IgG1 Fc His-tagged OX40 expressed in HEK293 cells
Amino Acids:	29-216
Uniprot No.:	P43489
Molecular Weight:	48.2 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	≥85% estimated by SDS-PAGE
Supplied in:	Lyophilized from sterile PBS, pH 7.4
Endotoxin Testing:	<1.0 EU/µg, determined by the LAL endotoxin assay
Protein Concentration:	***batch specific*** mg/ml
Bioactivity:	See figures for details

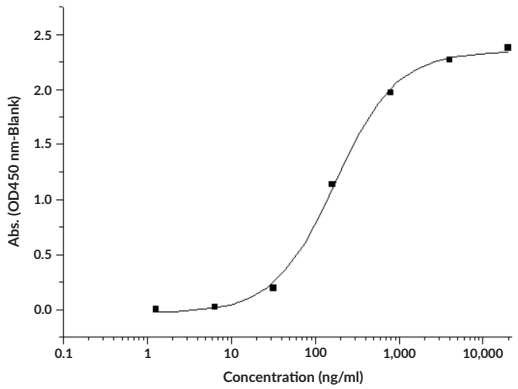
Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Images



Lane 1: MW Markers
Lane 2: OX40/CD134

SDS-PAGE Analysis of OX40/CD134. This protein has a calculated molecular weight of 48.2 kDa. It has an apparent molecular weight of approximately 68 kDa by SDS-PAGE under reducing conditions due to glycosylation.



OX40/CD134 Binding in Functional ELISA. Immobilized cynomolgus mFc-TNFSF4 at 10 µg/ml (100 µl/well) can bind human OX40/CD134. The EC_{50} value of human OX40/CD134 is 0.23-0.55 µg/ml.

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM

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Description

OX40, also known as TNF receptor superfamily member 4 (TNFRSF4), is a type I transmembrane glycoprotein and the cognate receptor for the T cell co-stimulatory molecule OX40L (TNFSF4; Item No. 32065).[1] OX40 assembles into trimers, with each monomer containing three cysteine-rich domains (CRDs) that bind OX40L and a cytoplasmic tail that interacts with TNF receptor-associated factor 1 (TRAF1), -2, -3, and -5 to induce a variety of intracellular signaling cascades, including NF-κB, ERK, PI3K, and Akt pathways.[1,2] OX40 is transiently expressed on $CD4^+$ and $CD8^+$ T cells in response to antigen stimulation in humans and is localized to lipid rafts.[1,3] Binding of an OX40 trimer to trimeric OX40L, expressed by antigen-presenting cells (APCs), including dendritic cells (DCs), macrophages, and B cells, forms a hexameric OX40-OX40L complex that promotes effector T cell phenotype and function, proliferation, survival, and memory.[3] Increased OX40 levels have been found in inflamed tissues isolated from patients with a variety of autoimmune diseases, including multiple sclerosis, systemic lupus erythematosus (SLE), or rheumatoid arthritis.[3] Cayman's OX40/CD134 (human, recombinant) protein can be used for binding assays. This protein is a disulfide-linked homodimer. The reduced monomer, composed of OX40 (amino acids 29-216) fused to His-tagged human IgG1 Fc at its C-terminus, consists of 436 amino acids, has a calculated molecular weight of 48.2 kDa, and a predicted N-terminus of Leu29 after signal peptide cleavage. As a result of glycosylation, the monomer migrates at approximately 68 kDa by SDS-PAGE under reducing conditions.

References

1. Buchan, S.L., Rogel, A., and Al-Shamkhani, A. The immunobiology of CD27 and OX40 and their potential as targets for cancer immunotherapy. *Blood* **131(1)**, 39-48 (2018).
2. Croft, M., So, T., Duan, W., *et al.* The significance of OX40 and OX40L to T-cell biology and immune disease. *Immunol. Rev.* **229(1)**, 173-191 (2009).
3. Webb, G.J., Hirschfield, G.M., and Lane, P.J.L. OX40, OX40L and autoimmunity: A comprehensive review. *Clin. Rev. Allergy Immunol.* **50(3)**, 312-332 (2016).

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1180 EAST ELLSWORTH RD
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CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM