Data Sheet (Cat.No.TMPY-02029)

TargetMol

CDO Protein, Human, Recombinant (His)

General Information

Synonyms:	CDON1;HPE11;cell adhesion associated, oncogene regulated;CDO;ORCAM
Protein Construction:	A DNA sequence encoding the human CDON (AAI14436.1) extracellular domain (Met 1-Asp 963) was expressed, with a polyhistidine tag at the C-terminus. Predicted N terminal: Asp 26
Species:	Human
Expression Host:	HEK293 Cells
Accession:	AAI14436.1
Molecular Weight:	103 kDa (predicted); 125 kDa (reducing conditions)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 65 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Cell adhesion molecule-related, down-regulated by oncogenes (CDON), also known as CDO, is an Ig superfamily member, is a component of a cell surface receptor that positively regulates skeletal myogenesis. Brother of CDO (BOC) is a cell surface receptor that derives its name from the structurally related protein, CDON. They are components of a cell surface receptor that positively regulates myogenesis in vitro. Expression of Cdo and Boc in myoblast cell lines is downregulated by the ras oncogene, and forced re-expression of either Cdo or Boc can

override ras-induced inhibition of myogenic differentiation. CDO and BOC play a role in the inverse relationship between differentiation and transformation of cells in the skeletal muscle lineage. CDON binds to Bnip-2 and JLP, scaffold proteins for Cdc42 and p38alpha/beta MAPK, respectively. The Bnip-2/Cdc42 and JLP/p38alpha/beta complexes associate in a CDON-dependent manner, resulting in Bnip-2/Cdc42-dependent p38alpha/beta activation and stimulation of cell differentiation. It is proposed that CDO mediates, at least in part, the effects of cell-cell interactions between muscle precursors that are critical in myogenesis.

Reference

Kang JS, et al. (1998) CDO, a robo-related cell surface protein that mediates myogenic differentiation. J Cell Biol. 143(2): 403-13.

Wegorzewska M, et al. (2003) Overexpression of the immunoglobulin superfamily members CDO and BOC enhances differentiation of the human rhabdomyosarcoma cell line RD. Mol Carcinog. 37(1): 1-4.

Cole F, et al. (2003) Microform holoprosencephaly in mice that lack the Ig superfamily member Cdon. Curr Biol. 13 (5): 411-5.

Jehee FS, et al. (2006) Mutational screening of FGFR1, CER1, and CDON in a large cohort of trigonocephalic patients. Cleft Palate Craniofac J. 43(2): 148-51.

Kavran JM, et al. (2010) All mammalian Hedgehog proteins interact with cell adhesion molecule, down-regulated by oncogenes (CDO) and brother of CDO (BOC) in a conserved manner. J Biol Chem. 285(32): 24584-90.

Lu M, et al. (2010) N-cadherin ligation, but not Sonic hedgehog binding, initiates Cdo-dependent p38alpha/beta MAPK signaling in skeletal myoblasts. Proc Natl Acad Sci U S A. 107(9): 4212-7.