

DDOST Protein, Human, Recombinant

General Information

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|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Synonyms: | CDG1R;OST48;OKSWcl45;AGER1;OST;dolichyl-diphosphooligosaccharide--protein glycosyltransferase subunit (non-catalytic);WBP1 |
| Protein Construction: | A DNA sequence encoding the human DDOST (P39656-1) extracellular domain (Ser 43-Pro 427) was expressed and purified, with additional two amino acids (Gly & Pro) at the N-terminus. Predicted N terminal: Gly |
| Species: | Human |
| Expression Host: | E. coli |
| Accession: | P39656-1 |
| Molecular Weight: | 42.7 kDa (predicted); 46 kDa (reducing conditions) |

QC Testing

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|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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: | > 95 % as determined by SDS-PAGE |
| Endotoxin: | Please contact us for more information. |
| Formulation: | Lyophilized from a solution filtered through a 0.22 µm filter, containing 50 mM Tris, 150 mM NaCl, pH 8.0. 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:

Reconstituted with sterile deionized water to 0.25 mg/mL. Reconstitution conditions may vary depending on the lot.

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

The enzyme oligosaccharyltransferase (dolichyl-diphosphooligosaccharide-protein glycosyltransferase) (DDOST), or 48-kDa subunit (OST48) is one of the catalytic subunits in this complex, exerts a typical type I membrane topology, containing a large luminal domain, a hydrophobic transmembrane domain and a short cytosolic

peptide tail. DDOST/OST48 catalyzes the transfer of a high-mannose oligosaccharide (GlcNac2Man9Glc3) from a dolichol-linked oligosaccharide donor (dolichol-P-GlcNac2Man9Glc3) onto the asparagine acceptor site within an Asn-X-Ser/Thr consensus motif in nascent polypeptide chains across the membrane of the endoplasmic reticulum. The mammalian oligosaccharyltransferase (OST) is an oligomeric complex composed of three type I transmembrane proteins of the endoplasmic reticulum: ribophorin I (RI), ribophorin II (RII), and OST48. OST48 is not a glycoprotein and is not recognized by antibodies to either ribophorin. Like ribophorins I and II, OST48 was found to be an integral membrane protein, with the majority of the polypeptide located within the lumen of the endoplasmic reticulum (ER). OST48 does not show significant amino acid sequence homology to either ribophorin I or II. It had been found that only the luminal domain of RI contains ER retention information. The dilysine motif in OST48 functions as an ER localization motif because OST48 in which the two lysine residues are replaced by serine (OST48ss) is no longer retained in the ER and is found instead also at the plasma membrane.

Reference

- Silberstein S, et al.(1992) The 48-kDa subunit of the mammalian oligosaccharyltransferase complex is homologous to the essential yeast protein WBP1. *J Biol Chem.* 267(33): 23658-63.
- Fu J, et al.(1997) Interactions among subunits of the oligosaccharyltransferase complex. *J Biol Chem.* 272(47): 29687-92.
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- Fu J, et al.(2000) Retention of subunits of the oligosaccharyltransferase complex in the endoplasmic reticulum. *J Biol Chem.* 275(6): 3984-90.
- Hardt B, et al.(2001) Analysis of structural signals conferring localisation of pig OST48 to the endoplasmic reticulum. *Biol Chem.* 382(7): 1039-47.

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