

## DEP-1/CD148 Protein, Human (341a.a, His)

<b>Cat. No.:</b>	HY-P74200
<b>Synonyms:</b>	Receptor-type tyrosine-protein phosphatase eta; R-PTP-eta; DEP-1; CD148; PTPRJ
<b>Species:</b>	Human
<b>Source:</b>	E. coli
<b>Accession:</b>	Q12913 (R997-A1337)
<b>Gene ID:</b>	5795
<b>Molecular Weight:</b>	Approximately 37 kDa

### PROPERTIES

<b>Appearance</b>	Lyophilized powder.
<b>Formulation</b>	Lyophilized from a 0.2 $\mu$ m filtered solution of PBS, pH 7.5. Normally 5% - 8% trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
<b>Endotoxin Level</b>	<1 EU/ $\mu$ g, determined by LAL method.
<b>Reconstitution</b>	It is not recommended to reconstitute to a concentration less than 100 $\mu$ g/mL in ddH <sub>2</sub> O.
<b>Storage &amp; Stability</b>	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
<b>Shipping</b>	Room temperature in continental US; may vary elsewhere.

### DESCRIPTION

<b>Background</b>	<p>DEP-1/CD148 protein, a tyrosine phosphatase, exerts its influence on a wide array of molecular targets, including CTNND1, FLT3, PDGFRB, MET, KDR, LYN, SRC, MAPK1, MAPK3, EGFR, TJP1, OCLN, PIK3R1, and PIK3R2. Its involvement extends to various cellular processes such as adhesion, migration, proliferation, and differentiation. In vascular development, DEP-1/CD148 plays a crucial role, serving as a regulator of macrophage adhesion and spreading while positively influencing cell-matrix adhesion. Moreover, it acts as a positive regulator of platelet activation and thrombosis while concurrently functioning as a negative regulator of cell proliferation and PDGF-stimulated cell migration through the dephosphorylation of PDGFR. DEP-1/CD148 also positively regulates endothelial cell survival and VEGF-induced SRC and AKT activation by dephosphorylating KDR. It negatively regulates the EGFR signaling pathway and enhances the barrier function of epithelial junctions during reassembly. In T-cell receptor (TCR) signaling, DEP-1/CD148 serves as a negative regulator, being up-regulated upon TCR activation and excluded from immunological synapses, subsequently dephosphorylating PLCG1 and LAT to down-regulate signaling prolongation upon T-cell-antigen presenting cells (APC) disengagement. Additionally, it activates angiogenesis and cell migration while downregulating the expression of endothelial adhesion molecules ICAM1 and VCAM1. The multifaceted activities of DEP-1/CD148 underscore its pivotal role in governing diverse cellular processes and signaling pathways.</p>
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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