

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived human DLL1 protein		
	Human DLL1 (Ser22-Glu537) Accession # O00548	IEGRMDP	Human IgG ₁ (Pro100-Lys330)
	N-terminus		C-terminus
N-terminal Sequence Analysis	Ser22		
Structure / Form	Disulfide-linked homodimer		
Predicted Molecular Mass	82 kDa		

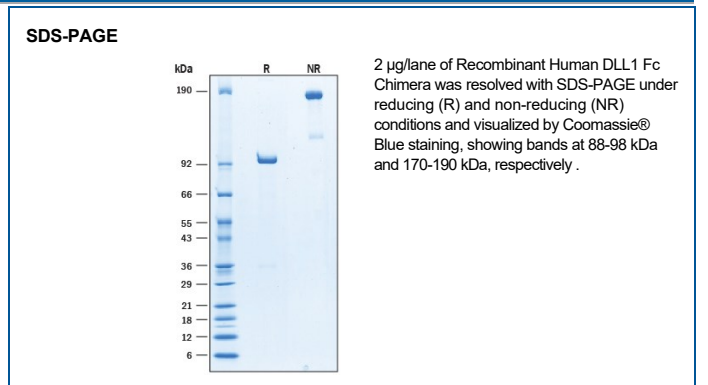
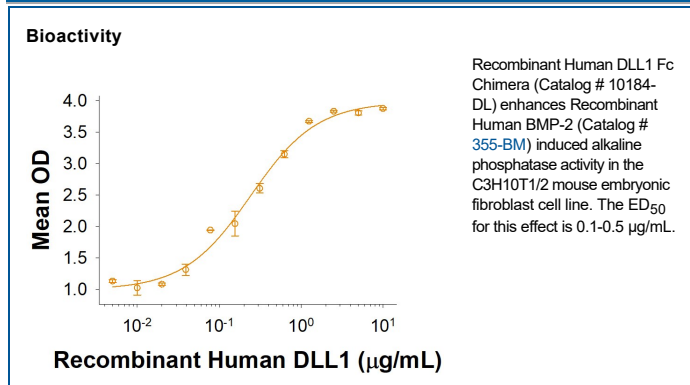
SPECIFICATIONS

SDS-PAGE	88-98 kDa, under reducing conditions
Activity	Measured by the ability of the immobilized protein to enhance BMP-2 induced alkaline phosphatase activity in C3H10T1/2 mouse embryonic fibroblast cells. Nobta, M. <i>et al.</i> (2005) J. Biol. Chem. 280 :15842. The ED ₅₀ for this effect is 0.1-0.5 µg/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>90%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in HEPES and EDTA. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 250 µg/mL in PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 3 months, -20 to -70 °C under sterile conditions after reconstitution.

DATA



BACKGROUND

Delta-like protein 1 (DLL1) is a 90-100 kDa type I transmembrane protein that belongs to the Delta/Serrate/Lag-2 (DSL) family of Notch ligands. Mature human DLL1 consists of a 528 amino acid (aa) extracellular domain (ECD) with one DSL domain and eight EGF-like repeats, a 23 aa transmembrane segment, and a 155 aa cytoplasmic domain (1). Within the ECD, human DLL1 shares 91% aa sequence identity with mouse and rat DLL1. It shares 26%, 37%, and 54% aa sequence identity with DLL2, 3, and 4, respectively. A 60 kDa ECD fragment released by ADAM9, 12, or 17 mediated proteolysis, promotes the proliferation of hematopoietic progenitor cells (2, 3). The residual membrane-bound portion of DLL1 can be cleaved by presenilin-dependent γ -secretase, enabling the cytoplasmic domain to migrate to the nucleus (4). DLL1 localizes to adherent junctions on neuronal processes through its association with the scaffolding protein MAG11 (5). DLL1 is widely expressed, and it plays an important role in embryonic somite formation, cochlear hair cell differentiation, plus B and T lymphocyte differentiation (6-11). The up-regulation of DLL1 in arterial endothelial cells following injury or angiogenic stimulation is central to postnatal arteriogenesis (12). DLL1 is also over-expressed in cervical carcinoma and glioma and contributes to tumor progression (1, 13). Soluble DLL-1 was shown to inhibit differentiation of hematopoietic precursor cells (14).

References:

1. Gray, G.E. *et al.* (1999) *Am. J. Pathol.* **154**:785.
2. Dyczynska, E. *et al.* (2007) *J. Biol. Chem.* **282**:436.
3. Karanu, F.N. *et al.* (2001) *Blood* **97**:1960.
4. Ikeuchi, T. and S.S. Sisodia (2003) *J. Biol. Chem.* **278**:7751.
5. Mizuhara, E. *et al.* (2005) *J. Biol. Chem.* **280**:26499.
6. Takahashi, Y. *et al.* (2003) *Development* **130**:4259.
7. Teppner, I. *et al.* (2007) *BMC Dev. Biol.* **7**:68.
8. Kiernan, A.E. *et al.* (2005) *Development* **132**:4353.
9. Schmitt, T.M. and J.C. Zuniga-Pflucker (2002) *Immunity* **17**:749.
10. Hozumi, K. *et al.* (2004) *Nat. Immunol.* **5**:638.
11. Santos, M.A. *et al.* (2007) *Proc. Natl. Acad. Sci.* **104**:15454.
12. Limbourg, A. *et al.* (2007) *Circ. Res.* **100**:363.
13. Purow, B.W. *et al.* (2005) *Cancer Res.* **65**:2353.
14. Han, W. *et al.* (2000) *Blood.* **95**(5):1616.