



Recombinant Human soluble DLL-1

20201009BB



FOR RESEARCH ONLY! NOT FOR HUMAN USE!

Cat.-no.:	S01-060
Size:	25 µg
Lot. No.:	According to product label

Scientific Background

Gene-ID (NCBI):	28514
Synonyms:	soluble DLL-1, Delta-like protein 1, Delta-1

Human soluble DLL-1 comprises the extracellular signaling domain of DLL-1, a member of the Delta/Serrate/Lag-2 (DSL) family of single-pass type I trans-membrane proteins that serve as ligands for Notch receptors. It is expressed primarily in the heart, pancreas and epidermis. DLL-1 functions to specifically activate the Notch-1 and Notch-2 receptors. Proteolytic cleavage of DLL-1 produces a secreted extracellular domain, sDLL-1, that interacts with Notch receptors expressed on adjacent cells. Notch signaling plays an essential role in controlling cell fate decisions during prenatal development and postnatal stem cell renewal, and differentiation in many tissues. Human sDLL-1 blocks monocyte differentiation into macrophages, but permits differentiation into dendritic cells. In hematopoietic progenitor cells, hsDLL-1, suppresses differentiation into B-cells, while promoting differentiation into T-cells and NK cell precursors. In cell culture, human sDLL-1 has been shown to promote expansion of hematopoietic progenitor cells and suppress apoptosis by inhibiting differentiation. Overexpression of Notch receptors appears to inhibit differentiation in several mammalian cell lines, and increasing evidence suggests that Notch signaling is frequently downregulated in human malignancies. The human DLL-1 gene consists of a 528 amino acid extracellular domain with one DSL domain, eight EGF-like repeats, a 23 amino acid transmembrane domain, and a 155 amino acid cytoplasmic domain. The calculated molecular weight of Recombinant Human sDLL-1 is 56.3 kDa.

Sequence

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SGVFELKLQE FVNKKGLLGN RNCCRGGAGP PPCACRTFFR
VCLKHYQASV SPEPPCTYGS AVTPVLGVDS FSLPDGGGAD
SAFSNPIRFP FGFTWPGTFS LIIEALHTDS PDDLATENPE
RLISRLATQR HLTVGEESWQ DLHSSGRTDL KYSYRFVCDE
HYYGEGCSVF CRPRDDAFGH FTCGERGEKV CNPGWKGPYC
TEPICLPGCD EQHGFCDKPG ECKCRVWGQG RYCDECIRYP
GCLHGTCQQP WQCNCQEGWG GLFCNQDLNY CTHHKPCKNG
ATCTNTGQGS YTCSCRPGYT GATCELGIDE CDPSPCKNGG
SCTDLENSYS CTCPPGFYVK ICELSAMTCA DGPCFNGGRC
SDSPDGGYSC RCPVGYSGFN CEKKIDYCSS SPCSNGAKCV
DLGDAYLCRC QAGFSGRHCD DNVDDCASSP CANGGTCRDG
VNDFSTCEP GYTGRNCSAP VSRCEHAPCH NGATCHERGH
RYVCECARGY GGPNCQFLP ELPPGPAVVD LTEKLEGQGG PF
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Database References

Protein RefSeq:	NP_005609
Uniprot ID:	O00548
mRNA RefSeq:	NM_005618

Product Specifications

Expressed in	HEK293 cells
Purity	> 95% by SDS-PAGE & HPLC analyses
Endotoxin level	< 0.1 ng/µg of protein (<1EU/µg).
Formulation	Lyophilized (10mM Sodium Phosphate, pH 7.5 + 150mM NaCl)
Length (aa):	522
MW:	56.3 kDa (calculated)

Stability: The lyophilized protein is stable at room temperature for 1 month and at 4°C for 3 months. Reconstituted working aliquots are stable for 1 week at 2°C to 8°C and for 3 months at -20°C to -80°C.

Reconstitution: Centrifuge the vial prior to opening. Reconstitute in water to a concentration of 0.1-1.0 mg/ml. *Do not vortex.* This solution can be stored at 2-8°C for up to 1 week. For extended storage, it is recommended to further dilute in a buffer containing a carrier protein (example 0.1% BSA) and store in working aliquots at -20°C to -80°C.



AVOID REPEATED FREEZE AND THAW CYCLES!

Biological Activity: Determined by the dose dependent growth suppression of the human acute monocytic leukemia cell line, THP-1. sDLL-1 inhibits the proliferation in THP-1 cells using a concentration of 3.0-5.0 µg/ml.