

DLL1 active protein

DLL1 Protein, Rat, Recombinant (His Tag)

CATALOG #
AAA258260

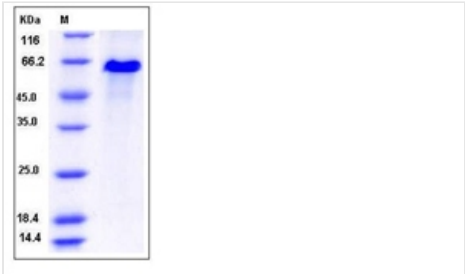
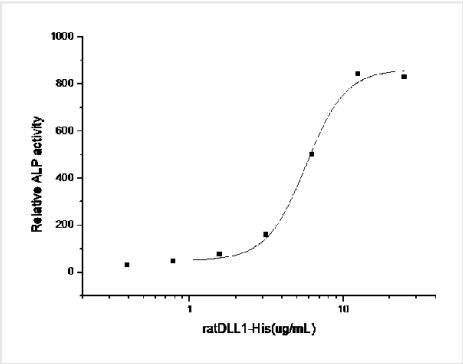
HOST
HEK293 Cells

PRODUCT SYNONYMS

DLL1; DLL1 Protein; Rat; Recombinant (His Tag); Rat DLL1 Protein (His Tag); delta-like 1 (Drosophila); DLL1 active protein

PRODUCT SPECIFICATIONS

Host	HEK293 Cells
Purity/Purification	>65% as determined by SDS-PAGE
Form/Format	Lyophilized from sterile PBS, 20% glycerol, pH7.4. Normally 5%-8% trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Please refer to the specific buffer information in the hard copy of CoA.
Sequence	Met1-Ser53 4
Species	Rat
Activity	1. Measured by its ability to bind human NOTCH1 in a functional ELISA. 2. Measured by the ability of the immobilized protein to enhance BMP2-induced alkaline phosphatase activity in C3H10T1/2 mouse embryonic fibroblast cells. The ED50 for this effect is typically 2-10ug/mL in the presence of 500ng/mL recombinant human BMP2.
Endotoxin	<1.0EU per ug of the protein as determined by the LAL method
Predicted N Terminal	Gln 18
Tag	C-His
Protein Construction	A DNA sequence encoding the rat DLL1 (EDL99825.1) extracellular domain (Met 1-Ser 534) was expressed, fused with a polyhistidine tag at the C-terminus.
Reconstitution	A hardcopy of COA with reconstitution instruction is sent along with the products. Please refer to it for detailed information.
Preparation and Storage	Samples are stable for up to twelve months from date of receipt at -20 degree C to -80 degree C. Store it under sterile conditions at -20 degree C to -80 degree C. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles. In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice.



SDS-PAGE

Application Data
Measured by the ability of the immobilized protein to enhance BMP2-induced alkaline phosphatase activity in C3H10T1/2 mouse embryonic fibroblast cells. The ED50 for this effect is typically 2-10 ug/mL in the presence of 500 ng/mL recombinant human BMP2.

ADDITIONAL INFORMATION

Related Product Information for DLL1 active protein	Background: Delta-like protein 1(DLL1), also known as Delta1, a single-pass type I membrane protein which contains one DSL domain and eight EGF-like domains, acts as a ligand for Notch receptors, and positively regulates T-cell development. DLL1 is proteolytically processed in a similar manner to the Notch receptor, and it has been speculated to participate in bidirectional signaling. The proteolytic processing of DLL1 helps achieve an asymmetry in Notch signaling in initially equivalent myogenic cells and helps sustain the balance between differentiation and self-renewal. Interactions between DLL1 and Notch in trans activate the Notch pathway, whereas DLL1 binding to Notch in cis inhibits Notch signaling. DLL1 undergoes proteolytic processing in its extracellular domain by ADAM10. It had been demonstrated that DLL1 represents a substrate for several other members of the ADAM family. In co-transfected cells, DLL1 is constitutively cleaved by ADAM12, and the N-terminal fragment of DLL1 is released to medium. ADAM12-mediated cleavage of DLL1 is cell density-dependent, takes place in cis orientation, and does not require the presence of the cytoplasmic domain of ADAM12. Full-length DLL1, but not its N- or C-terminal proteolytic fragment, co-immunoprecipitates with ADAM12. By using a Notch reporter construct, we show that DLL1 processing by ADAM12 increases Notch signaling in a cell-autonomous manner. Furthermore, ADAM9 and ADAM17 have the ability to process DLL1. In contrast, ADAM15 does not cleave DLL1, although the two proteins still co-immunoprecipitate with each other. During fetal development, DLL1 is an essential Notch ligand in the vascular endothelium of large arteries to activate Notch1 and maintain arterial identity. DLL1-Notch signaling was required for VEGF receptor expression in fetal arteries.
Product Categories/Family for DLL1 active protein	Notch Pathway
References	Dyczynska E, et al. (2007) Proteolytic processing of delta-like 1 by ADAM proteases. J Biol Chem. 282(1): 436-44. Sun D, et al. (2008) The role of Delta-like 1 shedding in muscle cell self-renewal and differentiation. J Cell Sci. 121(Pt 22): 3815-23. Srensen I, et al. (2009) DLL1-mediated Notch activation regulates endothelial identity in mouse fetal arteries. Blood. 113(22): 5680-8.

NCBI AND UNIPROT INFORMATION

Molecular Weight	The recombinant rat DLL1 comprises 746 amino acids and has a predicted molecular mass of 81.7kDa.
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For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.