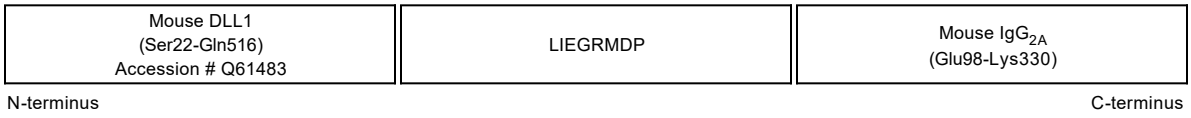
Recombinant Mouse DLL1 Fc Chimera

Catalog Number: 5026-DL

DESCRIPTION

Source

Mouse myeloma cell line, NS0-derived



N-terminal Sequence Analysis	Ser22
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	81.4 kDa (monomer)

SPECIFICATIONS

SDS-PAGE	94 kDa, 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. *et al.* (2005) J. Biol. Chem. **280**:15842. The ED_{50} for this effect is 0.25-1 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 500 µg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 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.

BACKGROUND

Delta-like protein 1 (DLL1) is a 90-100 kDa type I transmembrane protein in the Delta/Serrate/Lag-2 (DSL) family of Notch ligands. Mature mouse 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 154 aa cytoplasmic domain (1). Within the ECD, mouse DLL1 shares 91% and 95% aa sequence identity with human and rat DLL1, respectively. It shares 26%, 35%, and 51% 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 adherens junctions on neuronal processes through its association with the scaffolding protein MAGI1 (5). DLL1 is widely expressed, and it plays an important role in embryonic somite formation, cochlear hair cell differentiation, lymphocyte differentiation, and the maintenance of neural and myogenic progenitor cells (6-12). The up-regulation of DLL1 in arterial endothelial cells following injury or angiogenic stimulation is central to postnatal arteriogenesis (13). DLL1 is also over-expressed in cervical carcinoma and glioma and contributes to tumor progression (14, 15).

References:

1. Bettenhausen, B. *et al.* (1995) Development **121**:2407.
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. Shimojo, H. *et al.* (2008) Neuron **58**:52.
12. Schuster-Gossler, K. *et al.* (2007) Proc. Natl. Acad. Sci. **104**:537.
13. Limbourg, A. *et al.* (2007) Circ. Res. **100**:363.
14. Purow, B.W. *et al.* (2005) Cancer Res. **65**:2353.
15. Gray, G.E. *et al.* (1999) Am. J. Pathol. **154**:785.

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