Recombinant Human Slit2 (aa 26-1118)

Catalog Number: 8616-SL

DESCRIPTION

Source	Human embryonic kidney cell, HEK293-derived human Slit2 protein Gln26-Val1118, with a C-terminal 6-His tag Accession # O94813
N-terminal Sequence Analysis	No results obtained. Gln26 inferred from enzymatic pyroglutamate treatment revealing Ala27
Structure / Form	Noncovalently-linked homodimer
Predicted Molecular Mass	123 kDa

SPECIFICATIONS

SDS-PAGE	120-144 kDa, reducing conditions
Activity	Measured by its ability to enhance neurite outgrowth of E16-E18 rat embryonic cortical neurons. Recombinant Mouse Slit2 immobilized at 2.5 µg/mL is able to significantly induce neurite outgrowth.
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 PBS, NaCl and Ethylene Glycol. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 250 µg/mL in water.
Shipping	The product is shipped with polar packs. 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.

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BACKGROUND

Slit Homolog 2 (Slit2) is a member of the Slit family of secreted extracellular matrix glycoproteins that are best known for their role in axon guidance (1). It is widely expressed in the developing and adult brain and spinal cord, as well as in fetal lung and kidney, and the adult adrenal gland, thyroid gland, and trachea (1-3). Slit2 is composed of multiple domains including seven EGF-like domains, 20 Leucine-rich repeats (LRRs), one Laminin G-like domain, one C-terminal cysteine knot-like (CTCK) domain, and 4 N-terminal and 4 C-terminal LRR domains (1, 3). Slit2 has a molecular weight of approximately 200 kDa (4). However, proteolytic cleavage between the fifth and sixth EGF-like domains produces a membrane-bound 140 kDa N-terminal protein, termed Slit2-N, and a 55-60 kDa C-terminal fragment, termed Slit2-C (4, 5). Mature human Slit2 shares 96% amino acid sequence identity with the mouse and rat orthologs.

Slit2 has been shown to bind to multiple receptors including ROBO-1, -2, -3, and -4, Laminin-1, DAN, Gremlin, and Glypican-1 (1, 6-8). Depending upon the target, Slit2 can promote a number of diverse effects. Slit2 regulates axon guidance by binding to ROBO receptors and initiating axon repulsion (1, 5, 9-12). Slit2 has also been shown to induce growth cone collapse, inhibit oligodendrocyte precursor cell migration, and promote axon elongation, branch formation, and fasciculation (5, 13-16). Additionally, Slit2-N and Slit2-C have been shown to have distinct activities. Slit2-N binds to ROBO-1 and repels motor axon migration, while Slit2-C binds to Glypican-1 and promotes motor axon migration (5). Outside the nervous system, Slit2 plays a role in a wide range of biological processes including cell adhesion and migration, tumor progression and metastasis, angiogenesis, lymphangiogenesis, HIV-1 replication, platelet function and thrombus formation, and stem cell senescence (1, 8, 17-30).

References:

1. Ypsilanti, A.R. *et al.* (2010) Development **137**:1939.
2. Itoh, A. *et al.* (1998) Brain Res. Mol. Brain Res. **62**:175.
3. Holmes, G.P. *et al.* (1998) Mech. Dev. **79**:57.
4. Chédotal, A. (2007) Adv. Exp. Med. Biol. **621**:65.
5. Nguyen Ba-Charvet, K.T. *et al.* (2001) J. Neurosci. **21**:4281.
6. Nguyen-BA-Charvet, K.T. *et al.* (2001) Mol. Cell. Neurosci. **17**:1048.
7. Hagino, S. *et al.* (2003) Glia **42**:130.
8. Chen, B. *et al.* (2004) J. Immunol. **173**:5914.
9. Yuan, W. *et al.* (1999) Dev. Biol. **212**:290.
10. Erskine, L. *et al.* (2000) J. Neurosci. **20**:4975.
11. Shu, T. *et al.* (2003) J. Neurosci. **23**:8176.
12. Kim, M. *et al.* (2014) Neural Dev. **9**:17.
13. Wang, K.H. *et al.* (1999) Cell **96**:771.
14. Wong, E.V. *et al.* (2004) J. Neurobiol. **59**:66.
15. Liu, X. *et al.* (2012) J. Biol. Chem. **287**:17503.
16. Jaworski, A. and Tessier-Lavigne, M. (2012) Nat. Neurosci. **15**:367.
17. Guan, H. *et al.* (2003) J. Immunol. **171**:6519.
18. Liu, D. *et al.* (2006) Circ. Res. **98**:480.
19. Prasad, A. *et al.* (2007) J. Leukoc. Biol. **82**:465.
20. Tole, S. *et al.* (2009) J. Leukoc. Biol. **86**:1403.
21. Kim, H.K. *et al.* (2008) Neoplasia **10**:1411.
22. Prasad, A. *et al.* (2008) J. Biol. Chem. **283**:26624.
23. Tseng, R.C. *et al.* (2010) Cancer Res. **70**:543.
24. Alajez, N.M. *et al.* (2011) Cancer Res. **71**:2381.
25. Zhang, Q.Q. *et al.* (2015) Oncotarget **6**:3123.
26. Dunaway, C.M. *et al.* (2011) Mol. Cell. Biol. **31**:404.
27. Yang, X.M. *et al.* (2010) Biochem. Biophys. Res. Commun. **396**:571.
28. Anand, A.R. *et al.* (2011) AIDS **25**:2105.
29. Patel, S. *et al.* (2012) Circulation **126**:1385.
30. Harburg, G. *et al.* (2014) Stem Cell Reports **3**:385.

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