

DESCRIPTION

Source Chinese Hamster Ovary cell line, CHO-derived
Gln32-Gly534
Accession # Q9P244

N-terminal Sequence Analysis Results not obtained: Gln32 predicted

Predicted Molecular Mass 55.4 kDa

SPECIFICATIONS

SDS-PAGE 70-80 kDa under reducing conditions

Activity Measured by the ability of the immobilized protein to support the adhesion of Neuro-2A mouse neuroblastoma cells. When 5 x 10⁴ cells/well are added to rhSALM2 coated plates (2.5 µg/mL, 100 µL/well), approximately 50%-70% will adhere after 30 minutes at 37 °C. Optimal dilutions should be determined by each laboratory for each application.

Endotoxin Level <1.0 EU per 1 µg of the protein by the LAL method.

Purity >90%, by SDS-PAGE under reducing conditions and visualized by silver stain.

Formulation Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution Reconstitute at 100 µg/mL in 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.

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BACKGROUND

Synaptic adhesion-like molecule 2 (SALM2; also leucine-rich repeat and fibronectin type-III domain-containing protein 1 (Lrfn1) is a 105 kDa member of the Lrfn family of type I transmembrane glycoproteins (1 - 2). Human SALM2 is synthesized as a 771 amino acid (aa) precursor that contains a 31 aa signal sequence, a 505 aa extracellular domain (ECD), a 21 aa transmembrane region, and a 214 aa cytoplasmic region. The ECD consists of seven leucine-rich repeats (LRR), an IgC2-like domain, and a fibronectin type-III domain, tandemly aligned in that order (1, 3). In addition, there are two potential sites for N-linked glycosylation. The C-terminal region contains an intracellular PDZ binding domain, which is conserved among SALMs 1 - 3, but is absent in SALMs 4 and 5 (4). Mature human SALM2 shares 96% and 95% aa sequence identity with mature mouse and rat SALM2, respectively. In the developing mouse embryo, the temporal expression profile blot revealed a general increment of expression around E10.5 for SALM2. Northern blot analysis showed that in rats, SALM2 is strongly expressed in the adult brain and is also present in the adult testis (2). SALM2 localizes to both axons and dendrites (4). In addition, it co-localizes with both pre- and post-synaptic proteins at excitatory synapses in mature neurons (2, 4). SALM2, like the other SALMs, promotes neurite outgrowth (4). In particular, SALM2 promotes an increase in the number of primary processes compared to controls and SALMs 1 and 5 (4). In addition, SALM2 is an important regulator of the differentiation of excitatory synapses (2). SALM2 may also be involved in synaptic maintenance and other cellular interactions (4).

References:

1. Morimura, N. *et al.* (2006) *Gene* **380**:72.
2. Ko, J. *et al.* (2006) *Neuron* **50**:233.
3. Wang, C.-Y. *et al.* (2006) *J. Neurosci.* **26**:2174.
4. Wang, P.Y. *et al.* (2008) *Mol. Cell. Neurosci.* **39**:83.