Recombinant Human NELL2

Catalog Number: 8946-NL

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived Leu22-Leu816, with a C-terminal 6-His tag Accession # Q99435
N-terminal Sequence Analysis	Leu22
Predicted Molecular Mass	90 kDa

SPECIFICATIONS

SDS-PAGE	100-125 kDa, reducing conditions
Activity	Measured by the ability of the immobilized protein to support the adhesion of C3H10T1/2 mouse embryonic fibroblast cells. The ED_{50} for this effect is 0.3-1.8 µg/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in Sodium Citrate, NaCl and EDTA. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 500 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.

BACKGROUND

NELL2 is an approximately 140 kDa secreted glycoprotein that exhibits several actions during nervous system development. NELL2 associates into a homotrimer and contains one Laminin G domain, one vWF-C domain, and six EGF-like domains, followed by two more vWF-C domains (1). Mature human NELL2 shares 94% aa sequence identity with mouse and rat NELL2. Alternative splicing generates a cytosolic isoform that associates with PKC beta 1 and can inhibit PKC signaling (2). NELL2 is widely expressed in neurons of the central and peripheral nervous systems, particularly in the hippocampus, hypothalamus, cerebral cortex, and cerebellar cortex (3-5). It is selectively expressed in $VGAT1^+$ or $VGAT2^+$ glutamatergic neurons (4, 6). During development, NELL2 is expressed in select neural crest cells, retinal ganglion cells, and hypaxial muscle precursor cells of the dermomyotome (7). It promotes the differentiation and migration of both motor and sensory neurons (8), enhances neuronal survival (9), and promotes neuronal aggregation by inducing N-Cadherin up-regulation (10). NELL2 supports the release of GnRH from the hypothalamus which is important for the onset of female puberty (5, 6). NELL2 is additionally expressed in renal tubules but is down-regulated in renal cancer (11).

References:

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