Recombinant Human Neudesin

Catalog Number: 6714-ND

DESCRIPTION

Source	Chinese Hamster Ovary cell line, CHO-derived Gly32-Phe172, with a C-terminal 6-His tag Accession # Q9UMX5
N-terminal Sequence Analysis	Starts at Gly32
Structure / Form	Monomer
Predicted Molecular Mass	16.5 kDa

SPECIFICATIONS

SDS-PAGE	19-21 kDa, reducing conditions
Activity	Measured in a cell proliferation assay using Neuro-2A mouse neuroblastoma cells. The ED_{50} for this effect is 1.5-6.0 µg/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, 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 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

Neudesin (neuron-derived neurotrophic secreted protein), gene name NENF (neudesin neurotrophic factor), also called CIR2 (cell immortalization-related 2) or GIG47, is a secreted, 20-21 kDa member of the MAPR (membrane-associated progesterone receptor) subfamily of the cytochrome b5 family of molecules (1, 2). Human Neudesin is synthesized as a 172 amino acid (aa) precursor that contains a 31 aa signal sequence with a 141 aa mature region that possesses a cytochrome b5-like heme-binding domain over aa 44-129, and a lysine acetylation site at aa 136 (1-4). The attachment of hemin to its heme-binding domain is necessary for its neurotrophic activity, and the binding of heme accounts for 5-6 kDa of its circulating molecular weight (3). Mature human Neudesin shares 97%, 94% and 96% aa identity with mouse, rat, and bovine Neudesin, respectively. Neudesin appears to selectively promote cell survival or proliferation and inhibit differentiation in multiple settings. It is expressed by neuronal progenitors and neurons in the central nervous system, and by preadipocytes in white adipose tissue (5, 6). It promotes neuronal differentiation with limited proliferation and serves as a neuron survival factor, but inhibits both astrocyte and adipocyte differentiation (1, 5, 6). Neudesin over-expression is found in tumors in the human breast, cervix, colon, lung and skin, and in human tumor cell lines that include some lymphomas and leukemias; transfection studies indicate that it may act as an oncogene (4, 7).

References:

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7. Neubauer, H. *et al.* (2006) Electrophoresis **27**:1840.

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