Recombinant Human Draxin
Catalog Number: 6148-DR

DESCRIPTION

Source
Mouse myeloma cell line, NS0-derived
Gly26-Val349, with a C-terminal 6-His tag
Accession # NP_940947

N-terminal Sequence Analysis
Gly26

Structure/Form
Monomer

Predicted Molecular Mass
36.9 kDa

SPECIFICATIONS

SDS-PAGE
50-60 kDa, reducing conditions

Activity
Measured by its binding ability in a functional ELISA.
When Recombinant Human Draxin is immobilized at 2 μg/mL, Recombinant Human LRP-6 Fc Chimera (Catalog # 1505-LR) binds with an apparent K<sub>D</sub> < 25 nM.
Also measured by its ability to enhance neurite outgrowth of E16-E18 rat embryonic cortical neuron.

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 with BSA as a carrier protein. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution
Reconstitute at 100 μg/mL in PBS containing at least 0.1% human or bovine serum albumin.

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

Draxin (Dorsal repulsive axon guidance protein) also called neucrin (neural tissue-specific cysteine-rich protein) is a secreted, 58 kDa, presumably glycosylated member of the draxin family of repulsive guidance proteins (1-5). In mammals, it is expressed in developing neurons (axons), astroglia, and likely cells of the developing somite (1-3). Its expression appears to be limited to the brain and spinal cord (2, 4). Human Draxin mRNA encodes 349 amino acids (aa) that include a 25 aa signal sequence and a 324 aa mature, secreted protein containing one potential N-linked glycosylation site followed by a Cys-rich domain (aa 274-333). The pattern of cysteines is similar to the second of two cysteine-rich regions in members of the DKK family of Wnt inhibitors (4). Mature human Draxin (aa 26-349) shares 80%, 79%, 87% and 86% aa identity with mature mouse, rat, equine and bovine Draxin, respectively. Draxin is a repulsive guidance molecule that, like DKKs, acts as a Wnt antagonist by binding to LRP6 (4). Draxin is expressed by midline glial cells that act as intermediate guideposts for corpus callosum axons (1). Inactivation of the mouse Draxin gene results in lack of organization of axons into functional tracts or bundles (fasciculation), and failure of the corpus callosum, hippocampal and anterior commissures to form and cross the midline (1). Draxin-deficient mice also show abnormally small hippocampi, especially within the dentate gyrus, where excess apoptosis is detected during early postnatal life (3). In vitro, Draxin blocks migration of chick neural crest cells, while in vivo, ectopic over-expression inhibits growth of mouse axons or causes their misrouting (1, 2, 5).

References: