Recombinant Mouse Sortilin

Catalog Number: 2934-ST

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived Gly76-Asn753, with a C-terminal 6-His tag Accession # Q6PHU5
N-terminal Sequence Analysis	Gly76
Predicted Molecular Mass	76.4 kDa

SPECIFICATIONS

SDS-PAGE	95-100 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. Immobilized rmSortilin at 4 µg/mL (100 µL/well) can bind rhβ-NGF with a linear range of 3-200 ng/mL.
Endotoxin Level	<0.01 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 sterile 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

Sortilin (neurotensin receptor 3, glycoprotein 95) is a 95 kDa Type I transmembrane monomeric glycoprotein that is one of five known members of the mammalian vacuolar protein sorting 10p domain (Vps10p-D) family of sorting receptors (1, 2). Mouse preprosortilin is processed by signal sequence cleavage followed by propeptide cleavage at a furin recognition site. The cationic propeptide exhibits pH-dependent high affinity binding that blocks the Sortilin ligand binding site both pre- and post-cleavage (3). The extracellular/luminal sequence comprises the Vps10p domain, including 10 conserved cysteines (10CC) essential for ligand binding (2). The cytoplasmic domain sorting motifs confer all trafficking during synthesis, targeting to lysosomes, endocytosis and Golgi-endosome transport; as little as 10% may be found on the cell surface (4). Mature mouse Sortilin shares 98% amino acid (aa) identity with rat, and 91% aa identity with human and canine sortilin. During murine development, sortilin is mainly expressed in the nervous system (5), where it is a receptor for neuropeptides including neurotensin, nerve growth factor (NGF) and brain-derived neurotrophic factor (BDNF) (6 - 9). ProNGF (or the NGF propeptide alone) binds sortilin with a much higher affinity (K_D ~5-8 nM) than does mature NGF (K_D ~90 nM). The complex of sortilin, pro-NGF and the receptor $p75^{ntr}$ results in endocytosis of proNGF and induction of apoptosis (7). Similar results have been obtained with proBDNF and BDNF (8 - 9). Sortilin is expressed in other tissues including testis, skeletal muscle and fat (1, 10). It is essential and sufficient for biogenesis of Glut4 storage vesicles necessary for insulin responsiveness in adipocytes (10). Sortilin also binds lipoprotein lipase (11), apoE (2) and RAP (1, 11). Binding is competitive, indicating that although unrelated, targets likely bind the same site.

References:

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