

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse Sortilin in Western blots. In this format, approximately 30% cross-reactivity with recombinant human Sortilin is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse Sortilin (R&D Systems, Catalog # 2934-ST) Gly76-Asn753 Accession # Q6PHU5
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Western Blot	0.1 µg/mL	Recombinant Mouse Sortilin (Catalog # 2934-ST)

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 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 pre-sortilin 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 ($K_D \sim 5-8$ nM) than does mature NGF ($K_D \sim 90$ 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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