Mouse Sortilin Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF2934

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse Sortilin in direct ELISAs and Western blots. In direct ELISAs and Western blots, 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 Gly76-Asn753 Accession # Q6PHU5
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

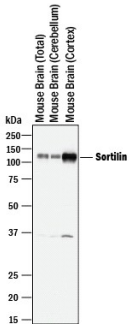
APPLICATIONS

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	1 µg/mL	See Below
Immunohistochemistry	1-15 µg/mL	See Below
Simple Western	10 µg/mL	See Below
Blockade of Receptor-ligand Interaction	In a functional ELISA, 1.5-6 µg/mL of this antibody will block 50% of the binding of 200 ng/mL of Recombinant Human β-NGF (Catalog # 256-GF) to immobilized Recombinant Mouse Sortilin (Catalog # 2934-ST) coated at 4 µg/mL (100 µL/well). At 100 µg/mL, this antibody will block >90% of the binding.	

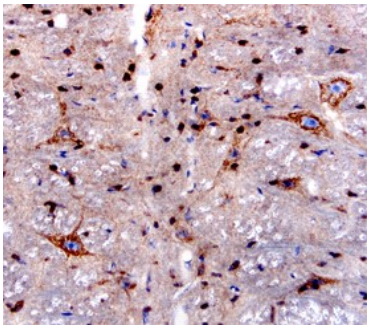
DATA

Western Blot



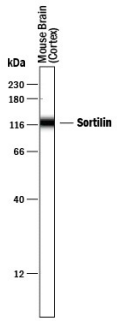
Detection of Mouse Sortilin by Western Blot. Western blot shows lysates of mouse brain (total) tissue, mouse brain (cerebellum) tissue, and mouse brain (cortex) tissue. PVDF membrane was probed with 1 µg/mL of Goat Anti-Mouse Sortilin Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2934) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF017). A specific band was detected for Sortilin at approximately 110 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Immunohistochemistry



Sortilin in Mouse Brain. Sortilin was detected in perfusion fixed frozen sections of mouse brain (rostral ventral medulla) using Goat Anti-Mouse Sortilin Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2934) at 1.7 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). View our protocol for Chromogenic IHC Staining of Frozen Tissue Sections.

Simple Western



Detection of Mouse Sortilin by Simple Western™. Simple Western lane view shows lysates of mouse brain (cortex) tissue , loaded at 0.2 mg/mL. A specific band was detected for Sortilin at approximately 122 kDa (as indicated) using 10 µg/mL of Goat Anti-Mouse Sortilin Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2934) followed by 1:50 dilution of HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF109). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449

Mouse Sortilin Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF2934

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. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
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. ● 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 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:

1. Petersen, C.M. *et al.* (1997) J. Biol. Chem. **272**:3599.
2. Westergaard, U.B. *et al.* (2004) J. Biol. Chem. **279**:50221.
3. Petersen, C.M. *et al.* (1998) EMBO J. **18**:595.
4. Nielsen, M.S. *et al.* (2001) EMBO J. **20**:2180.
5. Hermans-Borgmeyer, I. *et al.* (1999) Mol. Brain Res. **65**:216.
6. Mazella, J. *et al.* (1998) J. Biol. Chem. **273**:26273.
7. Nykjaer, A *et al.* (2004) Nature **427**:843.
8. Teng, H.K. *et al.* (2005) J. Neurosci. **25**:5455.
9. Chen, Z.-Y. *et al.* (2004) J. Neurosci. **25**:6156.
10. Shi, J and K.V. Kandror (2005) Dev. Cell **9**:99.
11. Nielsen, M.S. *et al.* (1999) J. Biol. Chem. **274**:8832.

Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449