Human Sortilin Alexa Fluor® Plus 647-conjugated Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF3154AFP647
100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human and mouse Sortilin in direct ELISAs and Western blots.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Sortilin Ser78-Asn755 Accession # Q99523
Conjugate	Alexa Fluor Plus 647 Excitation Wavelength: 658 nm Emission Wavelength: 675 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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.*

Western Blot	Optimal dilution of this antibody should be experimentally determined.
Blockade of Receptor-ligand Interaction	Optimal dilution of this antibody should be experimentally determined.
Flow Cytometry	Optimal dilution of this antibody should be experimentally determined.
Immunohistochemistry	Optimal dilution of this antibody should be experimentally determined.

DATA

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

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). Human 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 (10 CC) 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 human Sortilin shares 91% aa identity with mouse and rat Sortilin and 93% aa identity with dog. 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 much higher affinity (Kd ~5-8 nM) than does mature NGF (Kd ~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 pro-BDNF 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.

PRODUCT SPECIFIC NOTICES

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