### Product datasheet

**Anti-Sortilin/NT3 antibody ab16640**

![KO VALIDATED](image)

| ★★★★★ | 6 Abreviews | 35 References | 5 Images |

**Overview**

<table>
<thead>
<tr>
<th>Product name</th>
<th>Anti-Sortilin/NT3 antibody</th>
</tr>
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<tbody>
<tr>
<td>Description</td>
<td>Rabbit polyclonal to Sortilin/NT3</td>
</tr>
<tr>
<td>Host species</td>
<td>Rabbit</td>
</tr>
<tr>
<td>Tested applications</td>
<td><strong>Suitable for:</strong> WB, ICC/IF, Flow Cyt, IP, ICC, IHC-FoFr</td>
</tr>
<tr>
<td>Species reactivity</td>
<td><strong>Reacts with:</strong> Mouse, Rat, Cow, Human</td>
</tr>
<tr>
<td>Immunogen</td>
<td>Synthetic peptide corresponding to Human Sortilin/NT3 aa 800 to the C-terminus (C terminal) conjugated to keyhole limpet haemocyanin. (Peptide available as ab16686)</td>
</tr>
<tr>
<td>Positive control</td>
<td>Mouse, human or rat brain</td>
</tr>
</tbody>
</table>

**Properties**

<table>
<thead>
<tr>
<th>Form</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage instructions</td>
<td>Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.</td>
</tr>
<tr>
<td>Storage buffer</td>
<td>Preservative: 0.02% Sodium Azide Constituents: 1% BSA, PBS, pH 7.4</td>
</tr>
<tr>
<td>Purity</td>
<td>Immunogen affinity purified</td>
</tr>
<tr>
<td>Clonality</td>
<td>Polyclonal</td>
</tr>
<tr>
<td>Isotype</td>
<td>IgG</td>
</tr>
</tbody>
</table>

**Applications**

Our [Abpromise guarantee](#) covers the use of **ab16640** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

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<th>Notes</th>
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Function

Functions as a sorting receptor in the Golgi compartment and as a clearance receptor on the cell surface. Required for protein transport from the Golgi apparatus to the lysosomes by a pathway that is independent of the mannose-6-phosphate receptor (M6PR). Also required for protein transport from the Golgi apparatus to the endosomes. Promotes neuronal apoptosis by mediating endocytosis of the proapoptotic precursor forms of BDNF (proBDNF) and NGFB (proNGFB). Also acts as a receptor for neurotensin. May promote mineralization of the extracellular matrix during osteogenic differentiation by scavenging extracellular LPL. Probably required in adipocytes for the formation of specialized storage vesicles containing the glucose transporter SLC2A4/GLUT4 (GLUT4 storage vesicles, or GSVs). These vesicles provide a stable pool of SLC2A4 and confer increased responsiveness to insulin. May also mediate transport from the endoplasmic reticulum to the Golgi.

Tissue specificity

Expressed at high levels in brain, spinal cord, heart, skeletal muscle, thyroid, placenta and testis. Expressed at lower levels in lymphoid organs, kidney, colon and liver.

Involvement in disease

Note=A common polymorphism located in a non-coding region between CELSR2 and PSRC1 alters a CEBP transcription factor binding site and is responsible for changes in hepatic expression of SORT1. Altered SORT1 expression in liver affects low density lipoprotein cholesterol levels in plasma and is associated with susceptibility to myocardial infarction.

Sequence similarities

Belongs to the VPS10-related sortilin family. SORT1 subfamily. Contains 9 BNR repeats.

Domain

The N-terminal propeptide may facilitate precursor transport within the Golgi stack. Intrachain binding of the N-terminal propeptide and the extracellular domain may also inhibit premature ligand binding. The extracellular domain may be shed following protease cleavage in some cell types.

Post-translational modifications

The N-terminal propeptide is cleaved by furin and possibly other homologous proteases.

Cellular localization


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</thead>
<tbody>
<tr>
<td>WB</td>
<td>⭐⭐⭐⭐⭐</td>
<td>Use a concentration of 1 µg/ml. Detects a band of approximately 100 kDa (predicted molecular weight: 95 kDa).</td>
</tr>
<tr>
<td>ICC/IF</td>
<td>⭐⭐⭐⭐⭐</td>
<td>Use a concentration of 1 µg/ml.</td>
</tr>
<tr>
<td>Flow Cyt</td>
<td></td>
<td>Use at an assay dependent concentration. PubMed: 19761405 ab171870 - Rabbit polyclonal IgG, is suitable for use as an isotype control with this antibody.</td>
</tr>
<tr>
<td>IP</td>
<td></td>
<td>Use at an assay dependent concentration. PubMed: 21357693</td>
</tr>
<tr>
<td>ICC</td>
<td>⭐⭐⭐⭐⭐</td>
<td>1/1000.</td>
</tr>
<tr>
<td>IHC-FoFr</td>
<td>⭐⭐⭐⭐⭐</td>
<td>Use a concentration of 0.2 - 0.5 µg/ml.</td>
</tr>
</tbody>
</table>
the plasma membrane in adipocytes may be enhanced by insulin.

Images

Lane 1: Wild-type HAP1 cell lysate (20 µg)
Lane 2: Sortilin/NT3 knockout HAP1 cell lysate (20 µg)
Lane 3: NIH/3T3 cell lysate (20 µg)
Lane 4: 293T cell lysate (20 µg)
Lanes 1 - 4: Merged signal (red and green).
Green - ab16440 observed at 100 kDa. Red - loading control, ab8245, observed at 37 kDa.

ab16640 was shown to specifically react with Sortilin/NT3 in wild-type HAP1 cells. No band was observed when Sortilin/NT3 knockout samples were examined. Wild-type and Sortilin/NT3 knockout samples were subjected to SDS-PAGE. ab16640 and ab8245 (loading control to GAPDH) were diluted 1 µg/mL and 1/10,000 respectively and incubated overnight at 4°C. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed (ab216776) secondary antibodies at 1/10,000 dilution for 1 hour at room temperature before imaging.
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Sortilin/NT3 antibody (ab16640)

This image is courtesy of Sophie Pezet, Univ London Kings Coll, United Kingdom

Immunofluorescent staining for Sortilin/NT3 in rat cortical neurons using Rabbit polyclonal to Sortilin (ab16640). The staining is cytoplasmic and punctate of many cells such as cortical neurons. The image was taken with a X20 objective.

Protocol details: Rats were intracardially perfused with 4% paraformaldehyde. Whole brain tissue was post-fixed overnight in the same fixative, cryoprotected in 20% sucrose and frozen in OCT and then cut on cryostat (30µm coronal sections). IHC was performed in free floating with fixed tissues (rat brain sections). Primary antibody was incubated overnight at 1/3000 at room temperature.

Immunocytochemistry/ Immunofluorescence - Anti-Sortilin/NT3 antibody (ab16640)

This image is courtesy of an Abreview submitted by Ruma Raha-Chowdhury

ab16640 staining cultured mouse astrocytes by ICC/IF. The cultured cells were fixed with 4% paraformaldehyde for 5 minutes and blocked with 10% donkey serum in 0.1% PBS-0.3% TritonX for 30 minutes at 24°C. The cultured cells were then stained with ab16640 at 1/1000 in 0.3% TritonX with 0.1% PBS and 10% donkey serum for 4h at 24°C. An Alexa Fluro 488 donkey anti-rabbit polyclonal antibody at 1/1000 was used as the secondary antibody. Nuclei were stained with 1.43µM Hoechst and can be observed in blue. Sortilin expressed in the cytosol mainly in trans-golgi compartments.
Western blot - Anti-Sortilin/NT3 antibody (ab16640)

Lane 1: Marker

Lanes 2-4: Anti-Sortilin/NT3 antibody (ab16640) at 1 µg/ml

Lane 2: Human Brain Tissue Lysate at 20 µg

Lane 3: Mouse Brain at 20 µg

Lane 4: Brain (Rat) Whole Cell Lysate - normal tissue at 20 µg

Secondary

Lanes 2-4: Goat polyclonal to Rabbit IgG H&L (HRP) Pre-Adsorbed at 1/10000 dilution

Performed under reducing conditions.

Predicted band size: 95 kDa

Additional bands at: 31 kDa (possible cleavage fragment)

Immunocytochemistry/ Immunofluorescence - Anti-Sortilin/NT3 antibody (ab16640)

ICC/IF image of ab16640 stained PC12 cells. The cells were 4% formaldehyde fixed (10 min) and then incubated in 1%BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab16640, 1µg/ml) overnight at +4°C. The secondary antibody (green) was Alexa Fluor® 488 goat anti-rabbit IgG (H+L) used at a 1/1000 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1/200 dilution for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM.

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