abcam

ab263864

Anti-Sortilin/NT3 antibody [EPR23093-58]

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR23093-58
Purification technique	Affinity purification Protein A
Concentration	0.688 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Not recommended

Species	Mouse, Human, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat
Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000
Notes	-

IHC-P

Tested

Species	Mouse
Dilution info	1/5000
Notes	-

Species	Rat
Dilution info	1/5000
Notes	-

Species	Human
Dilution info	1/5000
Notes	-

ICC/IF

Tested

Species	Mouse
Dilution info	1/100

Notes	-

Species	Human
Dilution info	1/100
Notes	-

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	1/600
Notes	-

Species	Human
Dilution info	1/600
Notes	-

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information Sortilin

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). Lysosomal proteins bind specifically to the receptor in

the Golgi apparatus and the resulting receptor-ligand complex is transported to an acidic prelysosomal compartment where the low pH mediates the dissociation of the complex (PubMed:16787399). The receptor is then recycled back to the Golgi for another round of trafficking through its binding to the retromer. 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.

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Sortilin also known as NT3 receptor is a type I membrane protein with an approximate molecular mass of 100 kDa. It is expressed in various tissues especially the central nervous system and adipose tissue. Sortilin belongs to the Vps10p domain receptor family and functions in intracellular protein sorting. Its primary role involves the transport and signaling of neurotrophins particularly NT-3 protein (neurotrophin-3) which is vital for neuronal growth and survival.
Biological function summary	NT-3 protein influences the development and differentiation of the nervous system. Sortilin serves as a receptor for NT-3 facilitating the interaction with the TrkC receptor on neuronal cells. Sortilin forms a complex with NT-3 contributing to critical cellular processes. Being part of this receptor complex Sortilin modulates neuron-related signaling pathways which are essential for neurogenesis and synaptic plasticity.
Pathways	Sortilin and NT-3 play significant roles in the neurotrophin signaling pathway and influence the MAPK signaling cascade. These pathways are pivotal in neuron survival differentiation and growth. NT-3 interacts with other proteins such as TrkC and p75 to propagate these signals. Through its association with TrkC receptor Sortilin mediates critical cellular responses linked to neurotrophin signaling. The interplay between these proteins allows precise regulation of neuronal activities in various physiological states.
Associated diseases and disorders	NT-3 and Sortilin have associations with neurodegenerative conditions such as Alzheimer's disease and metabolic disorders like obesity. Dysregulation of Sortilin can contribute to abnormal NT-3 signaling affecting neuronal homeostasis. The protein also shows links with amyloid precursor protein (APP) in Alzheimer's disease where abnormal interactions may exacerbate disease progression. Understanding the dynamics of Sortilin in these conditions can offer insights into potential therapeutic approaches.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

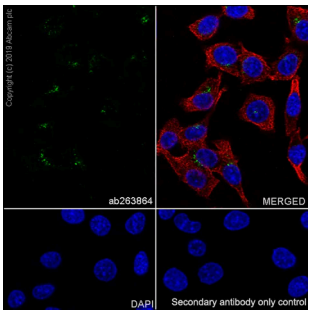
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

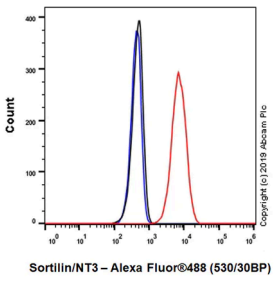
12 product images



Immunocytochemistry/ Immunofluorescence - Anti-Sortilin/NT3 antibody [EPR23093-58] (ab263864)

Sortilin/NT3 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Sortilin/NT3 antibody

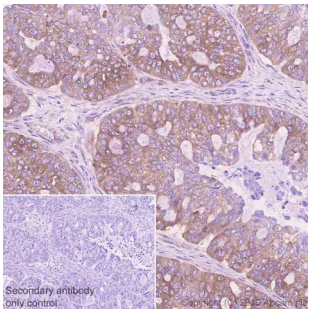
Immunofluorescent analysis of 100% methanol-fixed SH-SY5Y (Human neuroblastoma epithelial cell) cells labelling Sortilin/NT3 with ab263864 at 1\100 dilution, followed by ab150077 AlexaFluor®488 Goat anti-Rabbit secondary antibody at 1\1000 dilution (Green). Confocal image showing cytoplasmic staining in SH-SY5Y cell line. 100% methanol fixation is recommended. ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 dilution (Red). The nuclear counterstain was DAPI (Blue).
Secondary antibody only control: Secondary antibody is ab150077 AlexaFluor®488 Goat anti-Rabbit secondary at 1\1000 dilution.



Flow Cytometry (Intracellular) - Anti-Sortilin/NT3 antibody [EPR23093-58] (ab263864)

Sortilin/NT3 Flow Cytometry (Intracellular) staining using rabbit Anti-Sortilin/NT3 antibody

Intracellular flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized SH-SY5Y (Human neuroblastoma epithelial cell) cells labeling Sortilin/NT3 with ab263864 at 1/600 (Red) compared with a Rabbit monoclonal IgG (ab172730) / Black isotype control and an unlabeled control (cells without incubation with primary antibody and secondary antibody) (Blue). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) at 1\2000 was used as the secondary antibody.

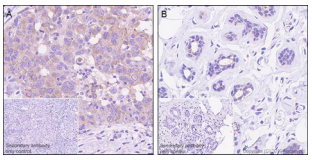


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Sortilin/NT3 antibody [EPR23093-58] (ab263864)

Sortilin/NT3 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Sortilin/NT3 antibody

Immunohistochemical analysis of paraffin-embedded human ovarian carcinoma tissue labeling Sortilin/NT3 with ab263864 at 1/5000 dilution followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Cytoplasmic staining on human ovarian carcinoma (PMID: 23407681) is observed. The section was incubated with ab263864 for 10 mins at RT. The immunostaining staining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

Heat mediated antigen retrieval with citrate buffer (pH 6.0, epitope retrieval solution 1) for 20 mins.

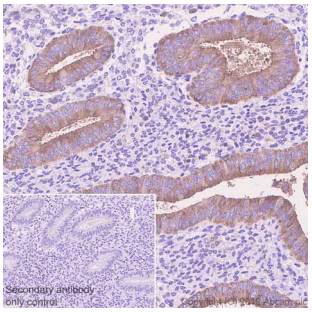


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Sortilin/NT3 antibody [EPR23093-58] (ab263864)

Sortilin/NT3 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Sortilin/NT3 antibody

Immunohistochemical analysis of paraffin-embedded human breast carcinoma and the paired adjacent breast tissue tissue labeling Sortilin/NT3 with ab263864 at 1/5000 dilution followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Cytoplasmic staining on human breast carcinoma (panel A) and weak staining on the paired adjacent breast tissue (panel B) (PMID: 25871389) is observed. The section was incubated with ab263864 for 10 mins at RT. The immunostaining staining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

Heat mediated antigen retrieval with citrate buffer (pH 6.0, epitope retrieval solution 1) for 20 mins.

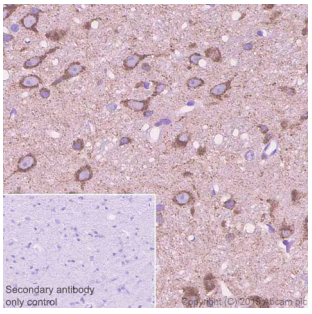


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Sortilin/NT3 antibody [EPR23093-58] (ab263864)

Sortilin/NT3 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Sortilin/NT3 antibody

Immunohistochemical analysis of paraffin-embedded human endometrium tissue labeling Sortilin/NT3 with ab263864 at 1/5000 dilution followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Cytoplasmic staining on human endometrium (PMID: 25662808) is observed. The section was incubated with ab263864 for 10 mins at RT. The immunostaining staining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

Heat mediated antigen retrieval with citrate buffer (pH 6.0, epitope retrieval solution 1) for 20 mins.



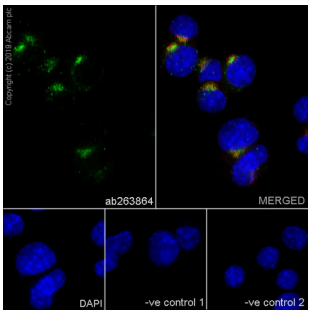
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Sortilin/NT3 antibody [EPR23093-58] (ab263864)

Sortilin/NT3 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Sortilin/NT3 antibody

Immunohistochemical analysis of paraffin-embedded rat cerebrum tissue labeling Sortilin/NT3 with ab263864 at 1/5000 dilution followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Cytoplasmic staining on rat cerebrum is observed. The section was incubated with ab263864 for 10 mins at RT. The immunostaining staining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

Heat mediated antigen retrieval with citrate buffer (pH 6.0, epitope retrieval solution 1) for 20 mins.



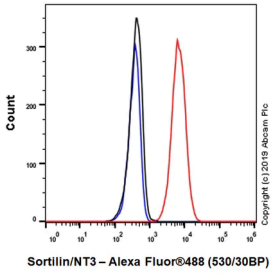
Immunocytochemistry/ Immunofluorescence - Anti-Sortilin/NT3 antibody [EPR23093-58] (ab263864)

Sortilin/NT3 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Sortilin/NT3 antibody

Immunofluorescent analysis of 100% methanol-fixed Neuro-2a (Mouse neuroblastoma neuroblast) cells labeling Sortilin/NT3 with ab263864 at 1\100 dilution, followed by ab150077 AlexaFluor®488 Goat anti-Rabbit secondary antibody at 1\1000 dilution (Green). Confocal image showing golgi staining in Neuro-2a cell line. 100% methanol fixation is recommended. Counterstained with ab169276 Anti-GM130 antibody-Golgi Marker (1/500 dilution) and ab150120 AlexaFluor®594 Goat anti-Mouse secondary (1/1000 dilution, red). The nuclear counterstain was DAPI (Blue).
The negative controls are as follows:

-ve control 1: ab263864 at 1/100 dilution, followed by Goat Anti-Mouse IgG H&L (Alexa Fluor® 594) (ab150120) secondary antibody at 1/500 dilution.

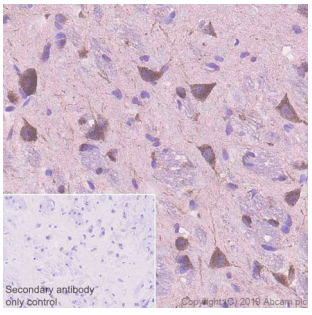
-ve control 2: ab169276 Anti-GM130 antibody- Golgi Marker at 1/500 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/500 dilution.



Flow Cytometry (Intracellular) - Anti-Sortilin/NT3 antibody [EPR23093-58] (ab263864)

Sortilin/NT3 Flow Cytometry (Intracellular) staining using rabbit Anti-Sortilin/NT3 antibody

Intracellular flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized Neuro-2a (Mouse neuroblastoma neuroblast) cells labeling Sortilin/NT3 with ab263864 at 1/600 (Red) compared with a Rabbit monoclonal IgG (ab172730) / Black isotype control and an unlabeled control (cells without incubation with primary antibody and secondary antibody) (Blue). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) at 1\2000 was used as the secondary antibody.

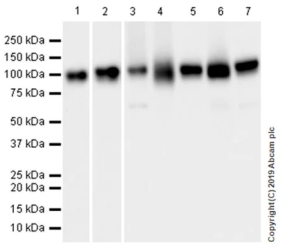


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Sortilin/NT3 antibody [EPR23093-58] (ab263864)

Sortilin/NT3 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Sortilin/NT3 antibody

Immunohistochemical analysis of paraffin-embedded mouse cerebrum tissue labeling Sortilin/NT3 with ab263864 at 1/5000 dilution followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Cytoplasmic staining on mouse cerebrum iso bserved. The section was incubated with ab263864 for 10 mins at RT. The immunostaining staining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

Heat mediated antigen retrieval with citrate buffer (pH 6.0, epitope retrieval solution 1) for 20 mins.



Western blot - Anti-Sortilin/NT3 antibody [EPR23093-58] (ab263864)

Blocking and diluting buffer and concentration: 5% NFDM/TBST.
Exposure time: Lanes 1-2: 48 seconds; Lanes 3-7: 6 seconds.

All lanes:
Western blot - Anti-Sortilin/NT3 antibody [EPR23093-58] (ab263864) at 1/1000 dilution

Lane 1:
Human brain lysate at 20 µg

Lane 2:
SH-SY5Y (human neuroblastoma epithelial cell) whole cell lysate at 20 µg

Lane 3:
Mouse brain lysate at 20 µg

Lane 4:
Mouse lung lysate at 20 µg

Lane 5:
Rat brain lysate at 20 µg

Lane 6:
Rat lung lysate at 20 µg

Lane 7:
Neuro-2a (mouse neuroblastoma neuroblast) whole cell lysate at 20 µg

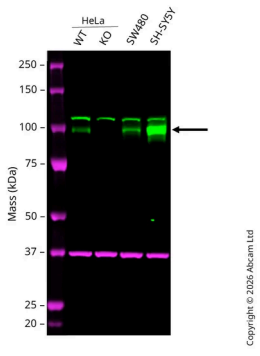
Secondary

Lane 1:
Western blot - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/1000 dilution

Lanes 2 - 7:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/50000 dilution

Predicted band size: 92 kDa

Observed band size: 100 kDa



Western blot - Anti-Sortilin/NT3 antibody [EPR23093-58] (ab263864)

Sortilin/NT3 Western blot staining using rabbit Anti-Sortilin/NT3 antibody

Western blot: Anti-Sortilin/NT3 antibody [EPR23093-58] ab263864 staining at 1/1000 dilution, shown in green; Mouse anti GAPDH ab8245 loading control staining at 1/20000 dilution, shown in magenta. A band was observed at 100 kDa in Wild-type HeLa cell lysates with no signal observed at this size in SORT1 knockout HeLa cell line. To generate this image, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 5% Milk in TBS-0.1 % Tween® 20 (TBS-T) before incubation with primary antibodies overnight at 4 °C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Rabbit 800CW and Goat anti-Mouse 680RD at 1/20,000 dilution.
All lanes:
Western blot - Anti-Sortilin/NT3 antibody [EPR23093-58] (ab263864) at 1/1000 dilution

Lane 1:
Wild-type HeLa cell lysates at 20 µg

Lane 2:
Western blot - Human SORT1 (Sortilin/NT3) knockout HeLa cell line (ab264772) at 20 µg

Lane 3:
SW480 cell lysates at 20 µg

Lane 4:
SH-SY5Y cell lysates at 20 µg

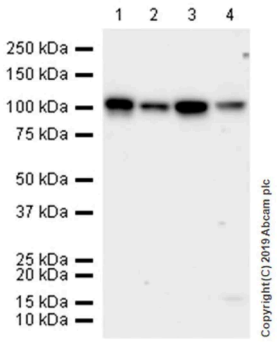
Secondary

All lanes:
Goat anti-Rabbit 800CW & Goat anti-Mouse 680RD at 1/20000 dilution

Performed under reducing conditions.

Predicted band size: 100 kDa

Observed band size: 100 kDa



Western blot - Anti-Sortilin/NT3 antibody [EPR23093-58] (ab263864)

Sortilin/NT3 Western blot staining using rabbit Anti-Sortilin/NT3 antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST.
Exposure time: 48 seconds.

All lanes:
Western blot - Anti-Sortilin/NT3 antibody [EPR23093-58] (ab263864) at 1/1000 dilution

Lane 1:
C6 (rat glial tumor glial cell) whole cell lysate at 10 µg

Lane 2:
RAW 264.7 (mouse abelson murine leukemia virus-induced tumor macrophage) whole cell lysate at 10 µg

Lane 3:
PC-12 (rat adrenal gland pheochromocytoma) whole cell lysate at 10 µg

Lane 4:
NIH/3T3 (mouse embryonic fibroblast) whole cell lysate at 10 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/50000 dilution

Predicted band size: 92 kDa

Observed band size: 100 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.