

# Anti-Synapsin I antibody [EPR23531-50] - Synaptic Marker ab254349

**重组 RabMAb**

**8 References**   [20 图像](#)

### 概述

<b>产品名称</b>	Anti-Synapsin I 抗体[EPR23531-50] - Synaptic Marker
<b>描述</b>	兔单克隆抗体[EPR23531-50] to Synapsin I - Synaptic Marker
<b>宿主</b>	Rabbit
<b>经测试应用</b>	<b>适用于:</b> IHC-Fr, Flow Cyt (Intra), WB, IP, IHC-P, ICC/IF, mIHC
<b>种属反应性</b>	<b>与反应:</b> Mouse, Rat, Human
<b>免疫原</b>	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
<b>阳性对照</b>	WB: Mouse brain tissue lysate; Rat brain and spinal cord tissue lysates; Human brain tissue lysate. IHC-P: Human hippocampus tissue; Mouse hippocampus and pancreas tissue; Rat retina tissue. IHC-Fr: Mouse cerebrum and retina tissue; rat cerebrum and retina tissue. ICC/IF: Mouse primary neuron cells; Rat primary neuron cells. Flow Cyt (intra): Mouse primary brain cells. IP: Mouse brain tissue lysate; Rat brain tissue lysate. mIHC: Human retina tissue.
<b>常规说明</b>	<p>This product is a recombinant monoclonal antibody, which offers several advantages including:</p> <ul style="list-style-type: none"> <li>- High batch-to-batch consistency and reproducibility</li> <li>- Improved sensitivity and specificity</li> <li>- Long-term security of supply</li> <li>- Animal-free production</li> </ul> <p>For more information <a href="#">see here</a>.</p> <p>Our RabMAb<sup>®</sup> technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to <a href="#">RabMAb<sup>®</sup> patents</a>.</p>

### 性能

<b>形式</b>	Liquid
<b>存放说明</b>	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C. Avoid freeze / thaw cycle.
<b>存储溶液</b>	pH: 7.2 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
<b>纯度</b>	Protein A purified

克隆 单克隆  
 克隆编号 EPR23531-50  
 同种型 IgG

## 应用

**The Abpromise guarantee** **Abpromise™** 承诺保证使用 ab254349 于以下的经测试应用

“应用说明”部分 下显示的仅为推荐的起始稀释度;实际最佳的稀释度/浓度应由使用者检定。

应用	Ab评论	说明
IHC-Fr		1/100. Heat mediated antigen retrieval using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20).
Flow Cyt (Intra)		1/50.
WB		1/1000. Detects a band of approximately 70, 75 kDa (predicted molecular weight: 74 kDa).
IP		1/30.
IHC-P		1/1000. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.
ICC/IF		1/500.
mlHC		Use at an assay dependent concentration.

## 靶标

**功能** Neuronal phosphoprotein that coats synaptic vesicles, binds to the cytoskeleton, and is believed to function in the regulation of neurotransmitter release. The complex formed with NOS1 and CAPON proteins is necessary for specific nitric-oxid functions at a presynaptic level.

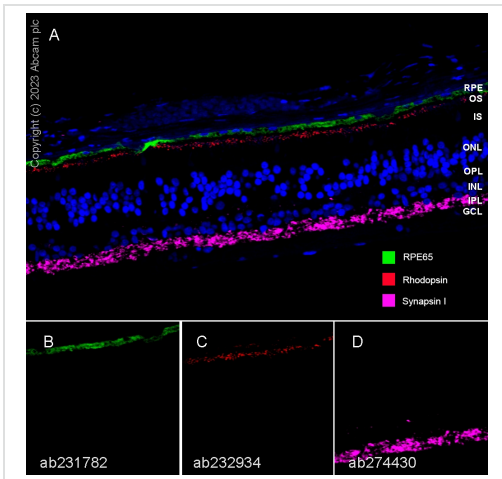
**疾病相关** Defects in SYN1 are a cause of epilepsy X-linked with variable learning disabilities and behavior disorders [MIM:300491]. XELBD is characterized by variable combinations of epilepsy, learning difficulties, macrocephaly, and aggressive behavior.

**序列相似性** Belongs to the synapsin family.

**翻译后修饰** Substrate of at least four different protein kinases. It is probable that phosphorylation plays a role in the regulation of synapsin-1 in the nerve terminal. Phosphorylated upon DNA damage, probably by ATM or ATR.

**细胞定位** Cell junction > synapse. Golgi apparatus.

## 图片



Multiplex immunohistochemistry - Anti-Synapsin I antibody [EPR23531-50] - Synaptic Marker (ab254349)

Multiplex immunohistochemistry analysis of formalin/PFA-fixed paraffin-embedded Human retina tissue labeling RPE65, Rhodopsin and Synapsin I with **ab231782** at 1/8000 dilution, **ab232934** at 1/8000 dilution and **ab274430** at 1/1500 dilution followed by a ready to use Opal Polymer HRP Ms + Rb secondary antibody. Nuclear counter stain used was DAPI.

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins

Panel A: merged staining of anti-Synapsin I (magenta; Opal™690), anti-RPE65 (green; Opal™520) and anti-Rhodopsin (red; Opal™570) on human retina.

Panel B: anti-RPE65 stained on pigmented layer.

Panel C: anti-Rhodopsin stained on rod photoreceptor cells.

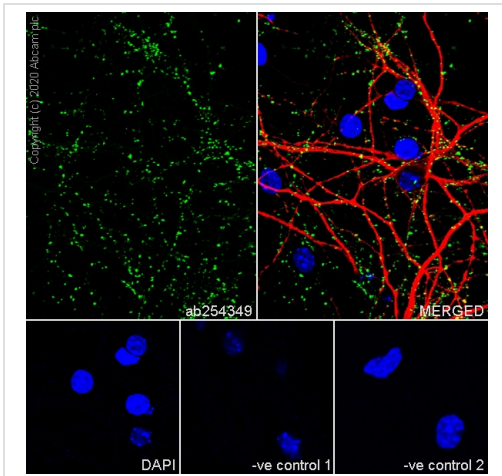
Panel D: anti-Synapsin I stained on inner plexiform layer.

The section was incubated in three rounds of staining: in the order of **ab274430**, **ab231782**, and **ab232934** for 30 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system.

The immunostaining was performed on a Leica Biosystems BOND® RX instrument with an Opal™ 4-color kit. Image acquisition was performed with Leica SP8 confocal microscope.

The section was incubated in three rounds of staining: in the order of **ab312840**, **ab16669**, and **ab236434** for 30 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system.

The immunostaining was performed on a Leica Biosystems BOND® RX instrument with an Opal™ 4-color kit. Image acquisition was performed with Leica SP8 confocal microscope.

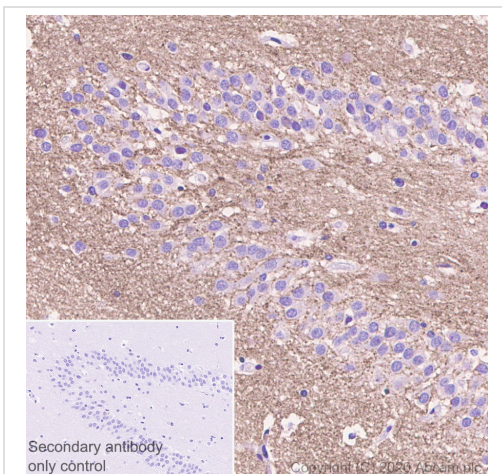


Immunocytochemistry/ Immunofluorescence - Anti-Synapsin I antibody [EPR23531-50] - Synaptic Marker (ab254349)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized mouse primary neuron cells labelling Synapsin-1 with ab254349 at 1/500 dilution, followed by **ab150077** Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) antibody at 1/1000 dilution (Green). Confocal image showing positive staining in mouse primary neuron. Confocal scanning Z step was set as 0.3 µm followed by image processing with maximum Z projection. **ab11267** Anti-MAP2 mouse monoclonal antibody was used to counterstain MAP2 at 1/500 dilution, followed by **ab150120** Goat Anti-Mouse IgG H&L (Alexa Fluor® 594) at 1/1000 dilution (Red). The Nuclear counterstain was DAPI (Blue).

-ve control 1: ab254349 at 1/500 dilution, followed by **ab150120** Goat Anti-Mouse IgG H&L (Alexa Fluor® 594) at 1/1000 dilution.

-ve control 2: **ab11267** at 1/500 dilution, followed by **ab150077** Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) antibody at 1/1000 dilution.

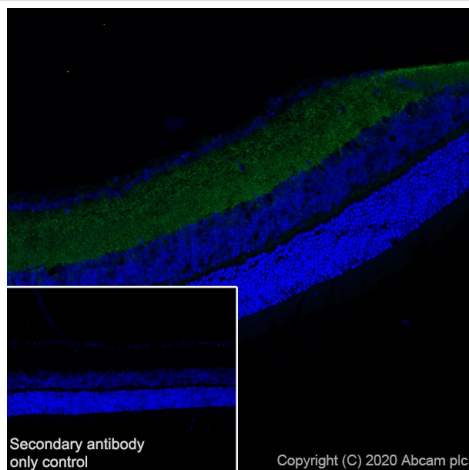


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Synapsin I antibody [EPR23531-50] - Synaptic Marker (ab254349)

Immunohistochemical analysis of paraffin-embedded Human hippocampus tissue labeling Synapsin-1 with ab254349 at 1/1000 dilution followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**). Cytoplasmic staining in human hippocampus (PMID: 22900032). The section was incubated with ab254349 for 30 mins at room temperature. The immunostaining 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**).

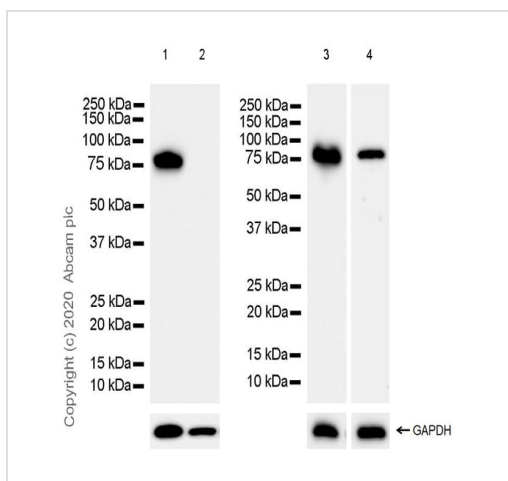
Heat mediated antigen retrieval with Citrate buffer (pH 6.0, epitope retrieval solution 1) for 20 mins.



Immunohistochemistry (Frozen sections) - Anti-Synapsin I antibody [EPR23531-50] - Synaptic Marker (ab254349)

Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen Mouse retina tissue labeling Synapsin-1 with ab254349 at 1/100 dilution followed by **ab150077** Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 (2 ug/ml) dilution (Green). Positive staining on mouse retina is observed. The nuclear counterstain was DAPI (Blue).

Secondary antibody control: Secondary antibody is **ab150077** Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 (2 ug/ml) dilution. Heat mediated antigen retrieval using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20).



Western blot - Anti-Synapsin I antibody [EPR23531-50] - Synaptic Marker (ab254349)

**All lanes** : Anti-Synapsin I antibody [EPR23531-50] - Synaptic Marker (ab254349) at 1/1000 dilution

**Lane 1** : Mouse brain tissue lysate

**Lane 2** : Mouse lung tissue lysate

**Lane 3** : Rat brain tissue lysate

**Lane 4** : Rat spinal cord tissue lysate

Lysates/proteins at 20 µg per lane.

### Secondary

**All lanes** : Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (**ab97051**) at 1/50000 dilution

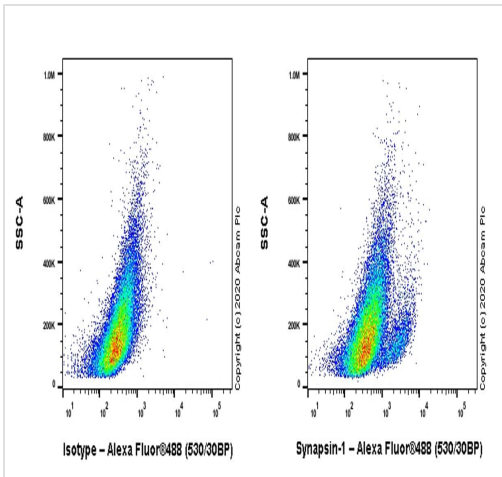
**Predicted band size:** 74 kDa

**Observed band size:** 75 kDa

Blocking and diluting buffer and concentration: 5% NFDN/TBST.

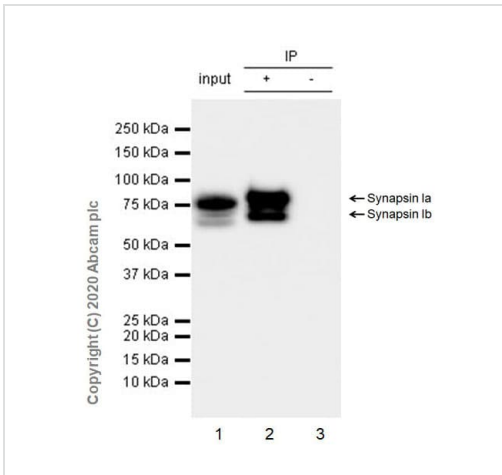
**Negative control:** Mouse lung (PMID: 9539796).

Exposure times: Lanes 1-3: 5.5 seconds; Lane 4: 3 minutes.



Flow Cytometry (Intracellular) - Anti-Synapsin I antibody [EPR23531-50] - Synaptic Marker (ab254349)

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed, 0.1% Tween-20 permeabilized Mouse primary brain cells cells labelling Synapsin-1 with ab254349 at 1/50 dilution (1 ug) (Right) compared with a Rabbit monoclonal IgG (**ab172730**) isotype control (Left). A Goat anti rabbit IgG (Alexa Fluor® 488, **ab150077**) at 1/2000 dilution was used as the secondary antibody.



Immunoprecipitation - Anti-Synapsin I antibody [EPR23531-50] - Synaptic Marker (ab254349)

Synapsin-1 was immunoprecipitated from 0.35 mg Mouse brain tissue lysate with ab254349 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab254349 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP)(**ab131366**) was used at 1/1000 dilution.

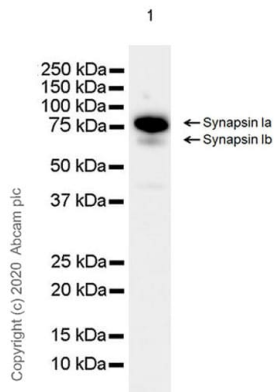
**Lane 1:** Mouse brain tissue lysate 10 ug

**Lane 2:** ab254349 IP in Mouse brain tissue lysate

**Lane 3:** Rabbit monoclonal IgG (**ab172730**) instead of ab254349 in mouse brain tissue lysate

Blocking and dilution buffer and concentration: 5% NFDm/TBST.

Exposure time: 1 second.



Western blot - Anti-Synapsin I antibody [EPR23531-50] - Synaptic Marker (ab254349)

Anti-Synapsin I antibody [EPR23531-50] - Synaptic Marker (ab254349) at 1/1000 dilution + Human brain tissue lysate at 20 µg

### Secondary

VeriBlot for IP secondary antibody(HRP)([ab131366](#)) at 1/1000 dilution

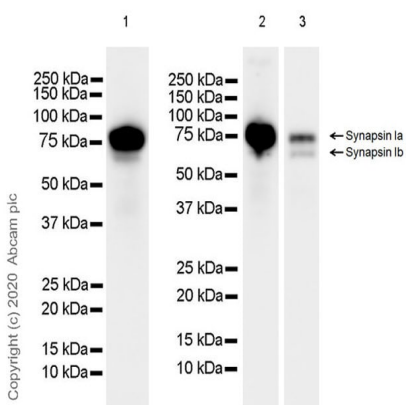
**Predicted band size:** 74 kDa

**Observed band size:** 70,75 kDa

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

This blot was developed using a higher sensitivity ECL substrate.

Exposure time: 15 seconds.



Western blot - Anti-Synapsin I antibody [EPR23531-50] - Synaptic Marker (ab254349)

**All lanes :** Anti-Synapsin I antibody [EPR23531-50] - Synaptic Marker (ab254349) at 1/1000 dilution

**Lane 1 :** Mouse brain tissue lysate

**Lane 2 :** Rat brain tissue lysate

**Lane 3 :** Rat spinal cord tissue lysate

Lysates/proteins at 20 µg per lane.

### Secondary

**All lanes :** Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated ([ab97051](#)) at 1/50000 dilution

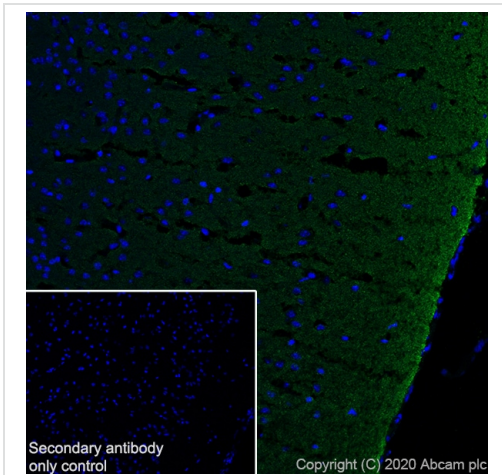
**Predicted band size:** 74 kDa

**Observed band size:** 70,75 kDa

Blocking and diluting buffer and concentration: 5% NFD/MTBST.

This blot was developed using a higher sensitivity ECL substrate.

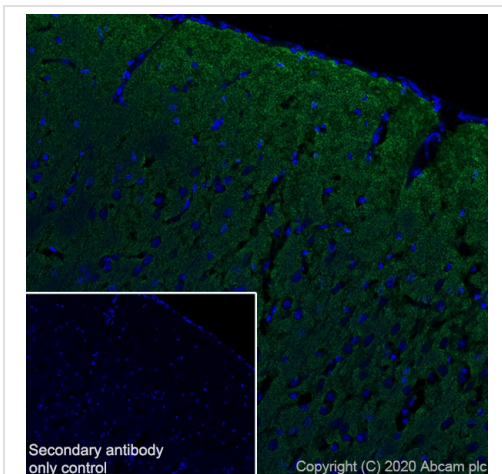
Exposure time: 15 seconds.



Immunohistochemistry (Frozen sections) - Anti-Synapsin I antibody [EPR23531-50] - Synaptic Marker (ab254349)

Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen Mouse cerebrum tissue labeling Synapsin-1 with ab254349 at 1/100 dilution followed by **ab150077** Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 (2 ug/ml) dilution (Green). Positive staining on mouse cerebrum is observed. The nuclear counterstain was DAPI (Blue).

Secondary antibody control: Secondary antibody is **ab150077** Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 (2 ug/ml) dilution. Heat mediated antigen retrieval using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20).

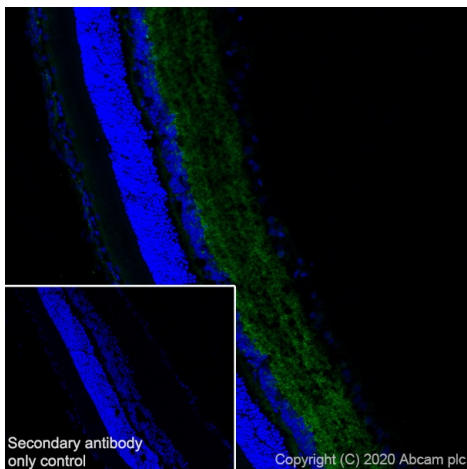


Immunohistochemistry (Frozen sections) - Anti-Synapsin I antibody [EPR23531-50] - Synaptic Marker (ab254349)

Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen Rat cerebrum tissue labeling Synapsin-1 with ab254349 at 1/100 dilution followed by **ab150077** Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 (2 ug/ml) dilution (Green). Positive staining on rat cerebrum is observed. The nuclear counterstain was DAPI (Blue).

Secondary antibody control: Secondary antibody is **ab150077** Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 (2 ug/ml) dilution. Heat mediated antigen retrieval using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20).

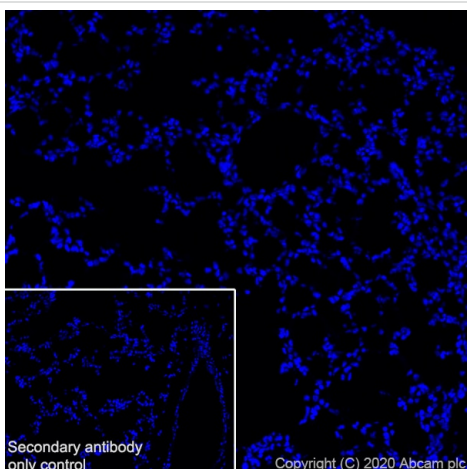




Immunohistochemistry (Frozen sections) - Anti-Synapsin I antibody [EPR23531-50] - Synaptic Marker (ab254349)

Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen Rat retina tissue labeling Synapsin-1 with ab254349 at 1/100 dilution followed by **ab150077** Goat Anti-Rabbit IgG H&L (Alexa Fluor<sup>®</sup> 488) at 1/1000 (2 ug/ml) dilution (Green). Positive staining on rat retina is observed. The nuclear counterstain was DAPI (Blue).

Secondary antibody control: Secondary antibody is **ab150077** Goat Anti-Rabbit IgG H&L (Alexa Fluor<sup>®</sup> 488) at 1/1000 (2 ug/ml) dilution. Heat mediated antigen retrieval using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20).

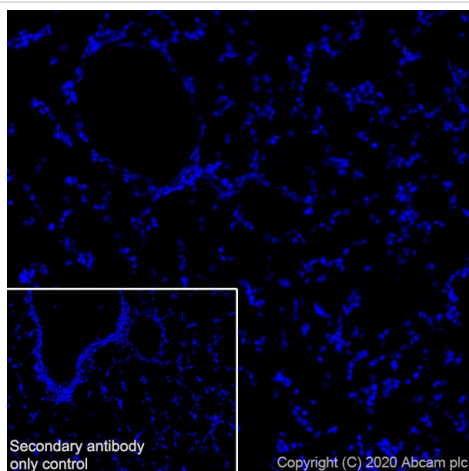


Immunohistochemistry (Frozen sections) - Anti-Synapsin I antibody [EPR23531-50] - Synaptic Marker (ab254349)

Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen Mouse lung tissue labeling Synapsin-1 with ab254349 at 1/100 dilution followed by **ab150077** Goat Anti-Rabbit IgG H&L (Alexa Fluor<sup>®</sup> 488) at 1/1000 (2 ug/ml) dilution (Green).

**Negative control:** no staining on mouse lung (PMID: 9539796) is observed. The nuclear counterstain was DAPI (Blue).

Secondary antibody control: Secondary antibody is **ab150077** Goat Anti-Rabbit IgG H&L (Alexa Fluor<sup>®</sup> 488) at 1/1000 (2 ug/ml) dilution. Heat mediated antigen retrieval using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20).



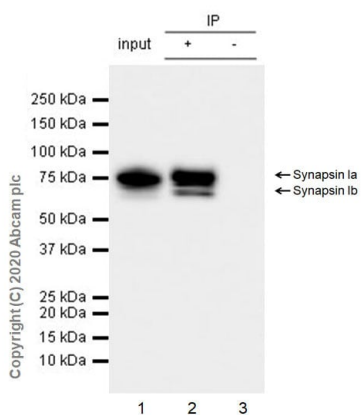
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Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen Rat lung tissue labeling Synapsin-1 with ab254349 at 1/100 dilution followed by **ab150077** Goat Anti-Rabbit IgG H&L (Alexa Fluor<sup>®</sup> 488) at 1/1000 (2 ug/ml) dilution (Green).

**Negative control:** no staining on rat lung (PMID: 9539796) is observed. The nuclear counterstain was DAPI (Blue).

Secondary antibody control: Secondary antibody is **ab150077** Goat Anti-Rabbit IgG H&L (Alexa Fluor<sup>®</sup> 488) at 1/1000 (2 ug/ml) dilution.

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Immunoprecipitation - Anti-Synapsin I antibody [EPR23531-50] - Synaptic Marker (ab254349)

Synapsin-1 was immunoprecipitated from 0.35 mg Rat brain tissue lysate with ab254349 at 1/30 dilution (2ug in 0.35mg lysates).

Western blot was performed on the immunoprecipitate using ab254349 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP)(**ab131366**) was used at 1/1000 dilution.

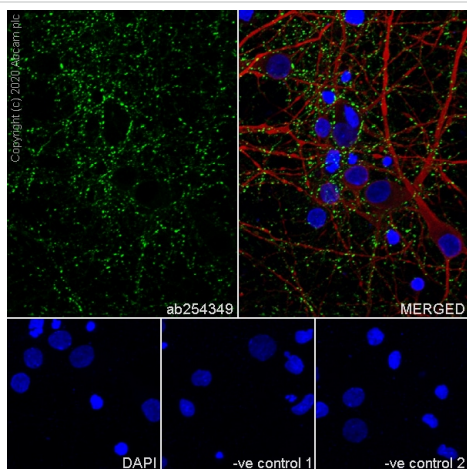
**Lane 1:** Rat brain tissue lysate 10 ug

**Lane 2:** ab254349 IP in Rat brain tissue lysate

**Lane 3:** Rabbit monoclonal IgG (**ab172730**) instead of ab254349 in rat brain tissue lysate

Blocking and dilution buffer and concentration: 5% NFDN/TBST.

Exposure time: 1 second.

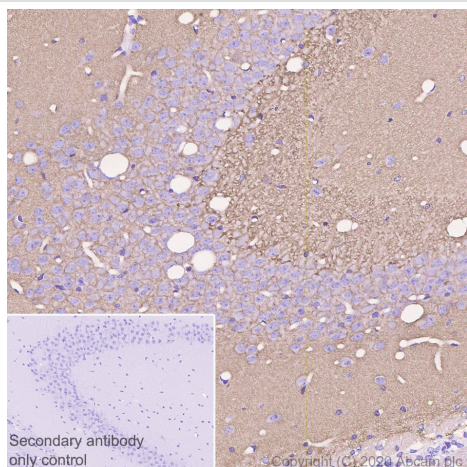


Immunocytochemistry/ Immunofluorescence - Anti-Synapsin I antibody [EPR23531-50] - Synaptic Marker (ab254349)

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-ve control 1: ab254349 at 1/500 dilution, followed by **ab150120** Goat Anti-Mouse IgG H&L (Alexa Fluor® 594) at 1/1000 dilution.

-ve control 2: **ab11267** at 1/500 dilution, followed by **ab150077** Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) antibody at 1/1000 dilution.

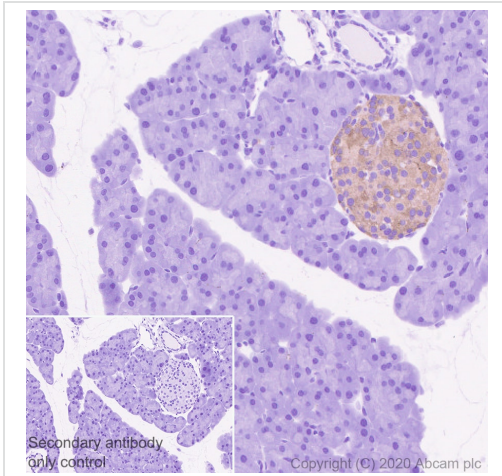


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Synapsin I antibody [EPR23531-50] - Synaptic Marker (ab254349)

Immunohistochemical analysis of paraffin-embedded Mouse hippocampus tissue labeling Synapsin-1 with ab254349 at 1/1000 dilution followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**). Cytoplasmic staining in mouse hippocampus (PMID: 22900032). The section was incubated with ab254349 for 30 mins at room temperature. The immunostaining 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.

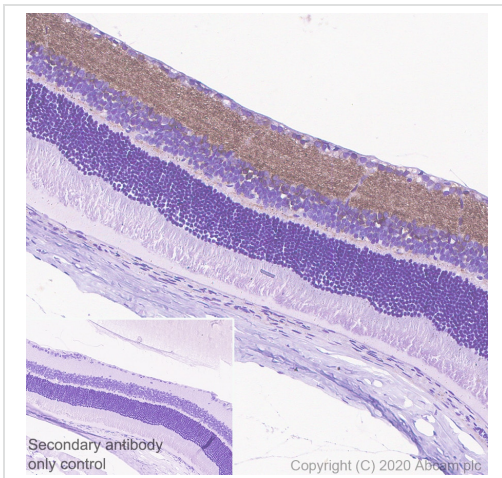


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Synapsin I antibody [EPR23531-50] - Synaptic Marker (ab254349)

Immunohistochemical analysis of paraffin-embedded Mouse pancreas tissue labeling Synapsin-1 with ab254349 at 1/1000 dilution followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**). Cytoplasmic staining in mouse pancreatic islets (PMID: 22334712). The section was incubated with ab254349 for 30 mins at room temperature. The immunostaining 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-Synapsin I antibody [EPR23531-50] - Synaptic Marker (ab254349)

Immunohistochemical analysis of paraffin-embedded Rat retina tissue labeling Synapsin-1 with ab254349 at 1/1000 dilution followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**). Cytoplasmic staining in rat retina (PMID: 2124189). The section was incubated with ab254349 for 30 mins at room temperature. The immunostaining 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.

Why choose a recombinant antibody?

 <b>Research with confidence</b> Consistent and reproducible results	 <b>Long-term and scalable supply</b> Recombinant technology
 <b>Success from the first experiment</b> Confirmed specificity	 <b>Ethical standards compliant</b> Animal-free production

Anti-Synapsin I antibody [EPR23531-50] - Synaptic Marker (ab254349)

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