

# Anti-Semaphorin 3A antibody [EPR19367] - Low endotoxin, Azide free ab222497

Recombinant RabMAb

[1 References](#) [9 Images](#)

## Overview

<b>Product name</b>	Anti-Semaphorin 3A antibody [EPR19367] - Low endotoxin, Azide free
<b>Description</b>	Rabbit monoclonal [EPR19367] to Semaphorin 3A - Low endotoxin, Azide free
<b>Host species</b>	Rabbit
<b>Tested applications</b>	<b>Suitable for:</b> IP, IHC-P, WB
<b>Species reactivity</b>	<b>Reacts with:</b> Mouse, Rat, Human
<b>Immunogen</b>	Recombinant fragment. This information is proprietary to Abcam and/or its suppliers.
<b>Positive control</b>	WB: Human fetal brain lysate; E14 rat embryo lysate; P0 mouse brain lysate; mouse and rat kidney lysates; Neuro-2a, NIH/3T3, PC-12, and C6 whole cell lysates. IHC-P: Human kidney, colon cancer and vascular smooth muscle of human skin tissues; Mouse kidney, vascular smooth muscle of mouse skin, and cerebral cortex of mouse E14 tissues; Rat heart tissue. IP: PC-12 whole cell lysate.
<b>General notes</b>	<p>ab222497 is the carrier-free version of <a href="#">ab199475</a>.</p> <p>Our <b>carrier-free</b> antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. The carrier-free buffer and high concentration allow for increased conjugation efficiency.</p> <p>This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.</p> <p>Use our <b>conjugation kits</b> for antibody conjugates that are ready-to-use in as little as 20 minutes with &lt;1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.</p> <p>This product is compatible with the Maxpar<sup>®</sup> Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar<sup>®</sup> is a trademark of Fluidigm Canada Inc.</p> <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>

Our RabMAb<sup>®</sup> technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to [RabMAb<sup>®</sup> patents](#).

Our **Low endotoxin, azide-free formats** have low endotoxin level ( $\leq 1$  EU/ml, determined by the LAL assay) and are free from azide, to achieve consistent experimental results in functional assays.

## Properties

<b>Form</b>	Liquid
<b>Storage instructions</b>	Shipped at 4°C. Store at +4°C. Do Not Freeze.
<b>Storage buffer</b>	pH: 7.2 Constituent: PBS
<b>Carrier free</b>	Yes
<b>Purity</b>	Protein A purified
<b>Clonality</b>	Monoclonal
<b>Clone number</b>	EPR19367
<b>Isotype</b>	IgG

## Applications

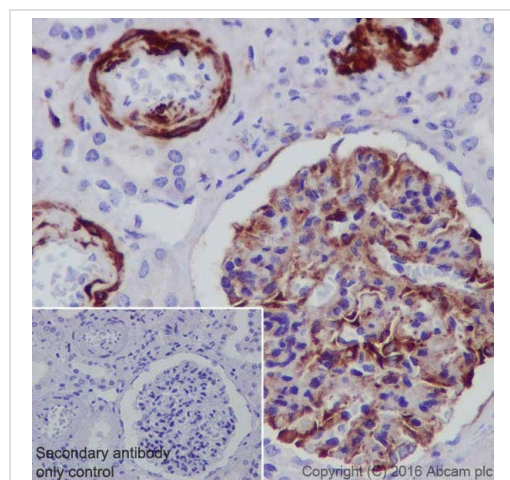
**The Abpromise guarantee** Our **Abpromise guarantee** covers the use of ab222497 in the following tested applications. The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
IP		Use at an assay dependent concentration.
IHC-P		Use at an assay dependent concentration. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.
WB		Use at an assay dependent concentration.

## Target

<b>Function</b>	Involved in the development of the olfactory system and in neuronal control of puberty. Induces the collapse and paralysis of neuronal growth cones. Could serve as a ligand that guides specific growth cones by a motility-inhibiting mechanism. Binds to the complex neuropilin-1/plexin-1.
<b>Involvement in disease</b>	Hypogonadotropic hypogonadism 16 with or without anosmia
<b>Sequence similarities</b>	Belongs to the semaphorin family. Contains 1 Ig-like C2-type (immunoglobulin-like) domain. Contains 1 PSI domain. Contains 1 Sema domain.
<b>Domain</b>	Strong binding to neuropilin is mediated by the carboxy third of the protein.

## Images



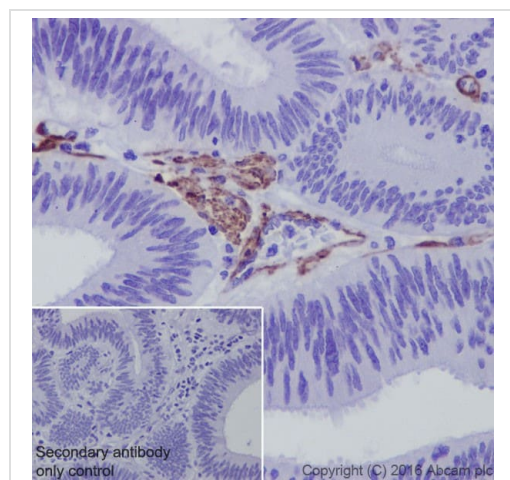
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Semaphorin 3A antibody [EPR19367] - Low endotoxin, Azide free (ab222497)

Immunohistochemical analysis of paraffin-embedded human kidney tissue labeling Semaphorin 3A with **ab199475** at 1/8000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) ready to use. Cytoplasmic staining on vascular smooth muscle and podocytes of human kidney [PMID: 25475434]. Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) ready to use.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab199475**).

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



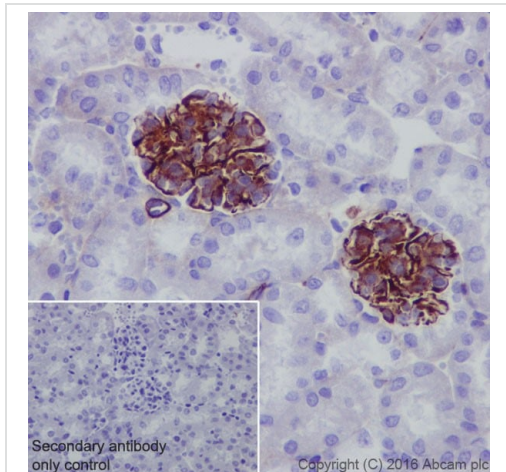
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Semaphorin 3A antibody [EPR19367] - Low endotoxin, Azide free (ab222497)

Immunohistochemical analysis of paraffin-embedded human colon cancer tissue labeling Semaphorin 3A with **ab199475** at 1/8000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) ready to use. Cytoplasmic staining on vascular smooth muscle of human colon cancer [PMID: 18483621]. Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) ready to use.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab199475**).

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



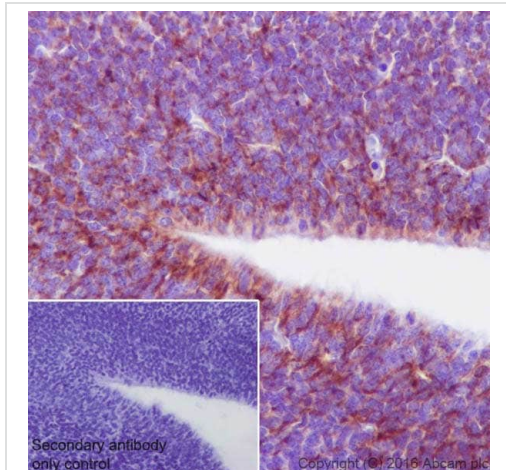
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Semaphorin 3A antibody [EPR19367] - Low endotoxin, Azide free (ab222497)

Immunohistochemical analysis of paraffin-embedded mouse kidney tissue labeling Semaphorin 3A with **ab199475** at 1/8000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) ready to use. Cytoplasmic staining on vascular smooth muscle and podocytes of mouse kidney was observed. Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) ready to use.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab199475**).

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Semaphorin 3A antibody [EPR19367] - Low endotoxin, Azide free (ab222497)

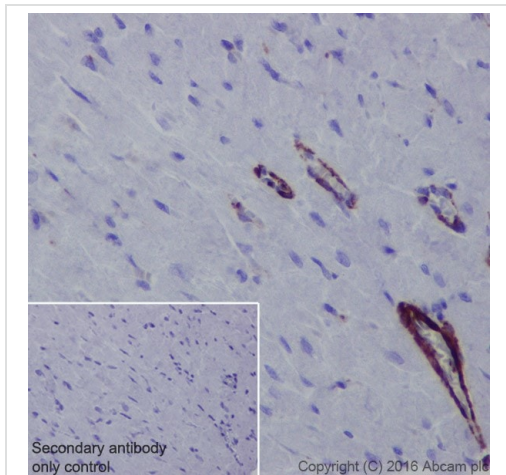
Immunohistochemical analysis of paraffin-embedded cerebral cortex of mouse E14 tissue labeling Semaphorin 3A with **ab199475** at 1/8000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) ready to use. Cytoplasmic staining on perineural small blood vessels of mouse E14 cerebral cortex [PMID: 12879061]. Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) ready to use.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab199475**).

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.





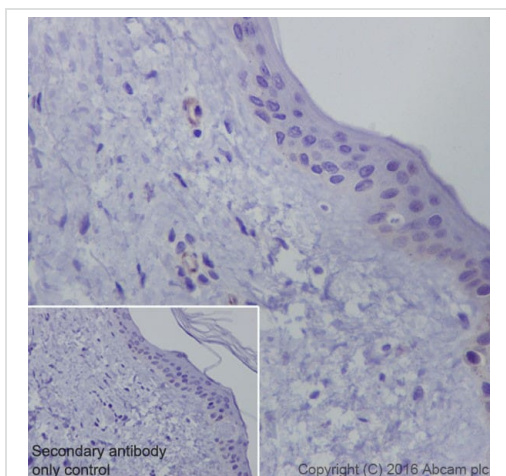
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Semaphorin 3A antibody [EPR19367] - Low endotoxin, Azide free (ab222497)

Immunohistochemical analysis of paraffin-embedded rat heart tissue labeling Semaphorin 3A with **ab199475** at 1/8000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) ready to use. Cytoplasmic staining on vascular smooth muscle of rat heart. Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) ready to use.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab199475**).

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



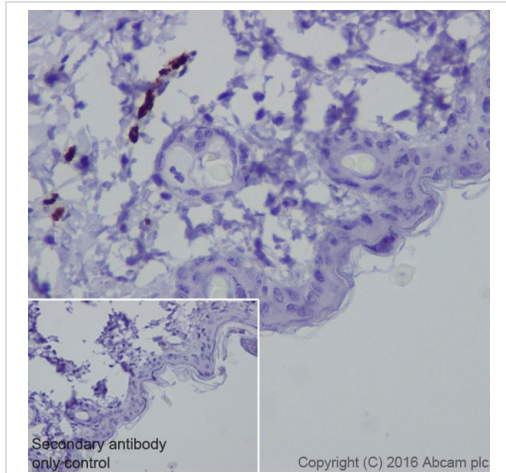
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Semaphorin 3A antibody [EPR19367] - Low endotoxin, Azide free (ab222497)

Immunohistochemical analysis of paraffin-embedded human skin tissue labeling Semaphorin 3A with **ab199475** at 1/8000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) ready to use. Weak cytoplasmic staining on vascular smooth muscle of human skin; epidermis is negative [PMID: 19443185]. Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) ready to use.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab199475**).

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



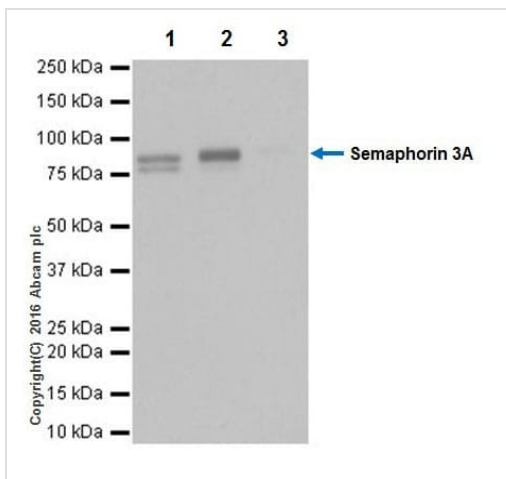
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Semaphorin 3A antibody [EPR19367] - Low endotoxin, Azide free (ab222497)

Immunohistochemical analysis of paraffin-embedded mouse skin tissue labeling Semaphorin 3A with **ab199475** at 1/8000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) ready to use. Weak cytoplasm staining on vascular smooth muscle of mouse skin was observed, staining on the epidermis is negative [PMID: 19443185]. Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) ready to use.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab199475**).

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunoprecipitation - Anti-Semaphorin 3A antibody [EPR19367] - Low endotoxin, Azide free (ab222497)

Semaphorin 3A was immunoprecipitated from 0.35 mg of PC-12 (Rat adrenal gland pheochromocytoma cell line) whole cell lysate with **ab199475** at 1/40 dilution. Western blot was performed from the immunoprecipitate using **ab199475** at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP) (**ab131366**), was used for detection at 1/10000 dilution.

Lane 1: PC-12 whole cell lysate, 10 µg (Input).

Lane 2: **ab199475** IP in PC-12 whole cell lysate.

Lane 3: Rabbit monoclonal IgG (**ab172730**) instead of **ab199475** in PC-12 whole cell lysate.

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

Exposure time: 3 seconds.

Staining pattern is consistent with what has been described in the literature, PMID: 23469280.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab199475**).

### Why choose a recombinant antibody?



**Research with confidence**  
Consistent and reproducible results



**Long-term and scalable supply**  
Recombinant technology



**Success from the first experiment**  
Confirmed specificity



**Ethical standards compliant**  
Animal-free production

Anti-Semaphorin 3A antibody [EPR19367] - Low  
endotoxin, Azide free (ab222497)

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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