

For Research Use Only

# Synaptotagmin-1 Polyclonal antibody

Catalog Number: 14511-1-AP

Featured Product

21 Publications



## Basic Information

### Catalog Number:

14511-1-AP

### Concentration:

450 ug/ml

### Source:

Rabbit

### Isotype:

IgG

### Immunogen Catalog Number:

AG5970

### GenBank Accession Number:

BC058917

### GeneID (NCBI):

6857

### UNIPROT ID:

P21579

### Full Name:

synaptotagmin I

### Calculated MW:

48 kDa

### Observed MW:

65 kDa, 47 kDa

### Purification Method:

Antigen affinity purification

### Recommended Dilutions:

WB: 1:4000-1:20000

IP: 0.5-4.0 ug for 1.0-3.0 mg of total protein lysate

IHC: 1:500-1:2000

IF/ICC: 1:50-1:500

## Applications

### Tested Applications:

WB, IHC, IF/ICC, IP, ELISA

### Cited Applications:

WB, IHC, IF, IP

### Species Specificity:

human, mouse

### Cited Species:

human, mouse, rat

**Note-IHC: suggested antigen retrieval with TE buffer pH 9.0; (\*) Alternatively, antigen retrieval may be performed with citrate buffer pH 6.0**

### Positive Controls:

WB: mouse cerebellum tissue, HCT 116 cells, mouse testis tissue, human liver tissue, Y79 cells

IP: mouse cerebellum tissue, HCT 116 cells

IHC: rat small intestine tissue,

IF/ICC: HepG2 cells, HCT 116 cells

## Background Information

The synaptotagmins are integral membrane proteins of synaptic vesicles thought to serve as Ca<sup>2+</sup> sensors in the process of vesicular trafficking and exocytosis (PMID: 8058779). SYT1 (synaptotagmin I) was firstly identified as a 65-kDa protein with a wide distribution in neuronal and neurosecretory tissue (PMID: 7298720). Calcium binding to SYT1 participates in triggering neurotransmitter release at the synapse (PMID: 11242035). In addition to regulating exocytosis, SYT1 has also been implicated in endocytosis and neurite outgrowth (PMID: 15492212; 11078930; 10336114). This antibody recognizes endogenous SYT1, which has an experimentally determined molecular mass of 65-68 kDa. An additional band of 47 kDa could also be detected, which is corresponding to the calculated molecular weight of SYT1.

## Notable Publications

Author	Pubmed ID	Journal	Application
Jingyun Liu	36558932	Pharmaceuticals (Basel)	IHC, IF
Hao-Long Zeng	29174846	Biochim Biophys Acta	WB
Hao-Long Zeng	24998433	J Proteomics	WB

## Storage

### Storage:

Store at -20°C. Stable for one year after shipment.

### Storage Buffer:

PBS with 0.02% sodium azide and 50% glycerol, pH7.3

Aliquoting is unnecessary for -20°C storage

For technical support and original validation data for this product please contact:

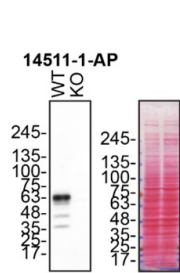
T: 4006900926

E: [Proteintech-CN@ptglab.com](mailto:Proteintech-CN@ptglab.com)

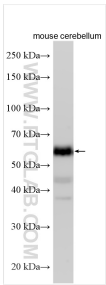
W: [ptgcn.com](http://ptgcn.com)

**This product is exclusively available under Proteintech Group brand and is not available to purchase from any other manufacturer.**

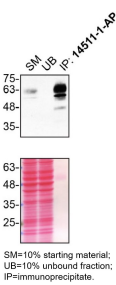
Selected Validation Data



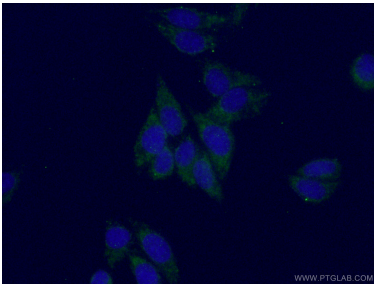
HCT 116 (WT and SYT1 KO) lysates prepared with RIPA buffer, 50  $\mu$ g protein loaded. 14511-1-AP incubated at 1:500 at 4°C overnight in 5% BSA in TBST. Ponceau stained transfers shown on right. Data provided by YCharOS, an open science company with a mission to validate commercial antibodies to improve scientific reproducibility and transparency.



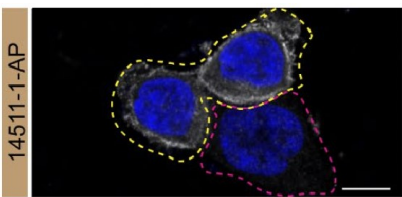
mouse cerebellum tissue was subjected to SDS PAGE followed by western blot with 14511-1-AP (Synaptotagmin-1 antibody) at dilution of 1:10000 incubated at room temperature for 1.5 hours.



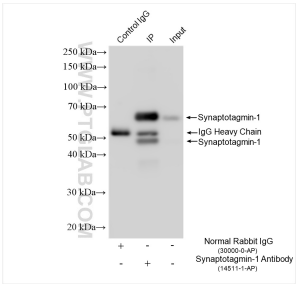
HCT 116 lysates prepared and IP of SYT1 performed using 1.0  $\mu$ g of 14511-1-AP coupled to protein A-Sepharose beads. Data provided by YCharOS, an open science company with a mission to validate commercial antibodies to improve scientific reproducibility and transparency.



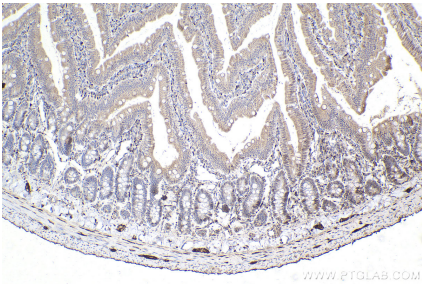
Immunofluorescent analysis of (-20°C Ethanol) fixed HepG2 cells using 14511-1-AP (Synaptotagmin-1 antibody) at dilution of 1:50 and Alexa Fluor 488-conjugated AffiniPure Goat Anti-Rabbit IgG(H+L).



HCT 116 WT cells (yellow outline) and SYT1 KO cells (red outline) labelled with a green or a far red fluorescence dye, respectively. Cells fixed with 4% PFA and stained with 14511-1-AP at 1:500 plus DAPI. Bars = 10  $\mu$ m. Data provided by YCharOS, an open science company with a mission to validate commercial antibodies to improve scientific reproducibility and transparency.



IP result of anti-Synaptotagmin-1 (IP:14511-1-AP, 4 $\mu$ g; Detection:14511-1-AP 1:20000) with mouse cerebellum tissue lysate 2000  $\mu$ g.



Immunohistochemical analysis of paraffin-embedded rat small intestine tissue slide using 14511-1-AP (Synaptotagmin-1 antibody) at dilution of 1:1000 (under 10x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).