

For Research Use Only

Synaptotagmin-1 Polyclonal antibody

Catalog Number:14511-1-AP

Featured Product

28 Publications



Basic Information

Catalog Number:

14511-1-AP

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 Ca²⁺ 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:

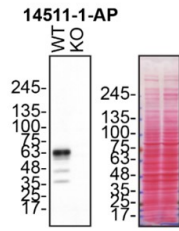
T: 4006900926

E: Proteintech-CN@ptglab.com

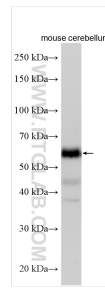
W: ptgcn.com

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

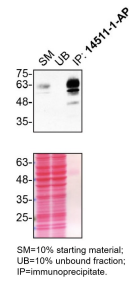
Selected Validation Data



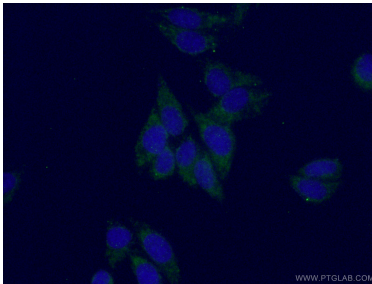
HCT 116 (WT and SYT1 KO) lysates prepared with RIPA buffer, 50 μ g protein loaded. 14511-1-AP incubated at 1:500 at 4°C overnight in 5% BSA in TBST. Ponceau stained transfers shown on right. Data provided by YCharOS, an open science company with a mission to validate commercial antibodies to improve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



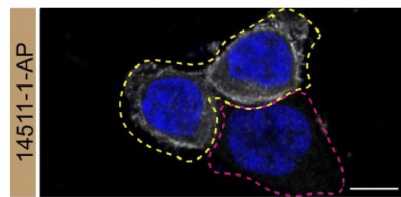
mouse cerebellum tissue was subjected to SDS PAGE followed by western blot with 14511-1-AP (Synaptotagmin-1 antibody) at dilution of 1:10000 incubated at room temperature for 1.5 hours.



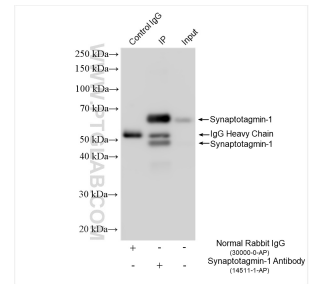
HCT 116 lysates prepared and IP of SYT1 performed using 1.0 μ g of 14511-1-AP coupled to protein A-Sepharose beads. Data provided by YCharOS, an open science company with a mission to validate commercial antibodies to improve scientific reproducibility and transparency.



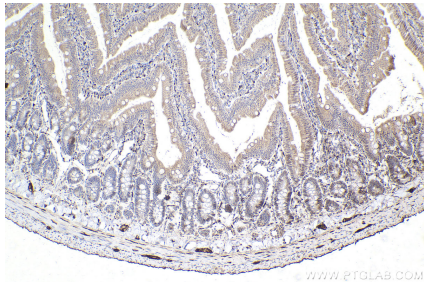
Immunofluorescent analysis of (-20°C Ethanol) fixed HepG2 cells using 14511-1-AP (Synaptotagmin-1 antibody) at dilution of 1:50 and Alexa Fluor 488-conjugated AffiniPure Goat Anti-Rabbit IgG(H+L).



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 μ 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 μ g; Detection:14511-1-AP 1:20000) with mouse cerebellum tissue lysate 2000 μ 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).