#### For Research Use Only

# SIRT2 Polyclonal antibody

Catalog Number: 19655-1-AP

Featured Product





## **Basic Information**

Catalog Number: 19655-1-AP Size: 150ul , Concentration: 700 ug/ml by Nanodrop: Source Rabbit Isotype lgG Immunogen Catalog Number: AG7756

GenBank Accession Number: BC003547 GenelD (NCBI): 22933 UNIPROT ID: Q8IXJ6 Full Name:

Observed MW: 37-45 kDa

sirtuin (silent mating type information regulation 2 homolog) 2 (S. cerevisiae) Calculated MW: 43 kDa

**Purification Method:** Antigen affinity purification

#### Recommended Dilutions:

WB: 1:5000-1:50000 IP: 0.5-4.0 ug for 1.0-3.0 mg of total protein lysate IHC: 1:500-1:2000

# **Applications**

**Tested Applications:** WB, IHC, IP, ELISA **Cited Applications:** WB, IHC, IF, IP, CoIP, RIP

**Species Specificity:** human, mouse, rat **Cited Species:** 

human, mouse, rat, monkey, zebrafish, bovine, goat

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

#### **Background Information**

The Silent Information Regulator (SIR2) family of genes is a highly conserved group of genes that encode nicotinamide adenine dinucleotide (NAD)-dependent protein deacetylases, also known as Class III histone deacetylases. The first discovered and best characterized of these genes is Saccharomyces cerevisiae SIR2, which is involved in silencing of mating type loci, telomere maintenance, DNA damage response, and cell aging (10545947). SirT2, a mammalian homolog of Sir2, deacetylates a-tubulin at Lys40 and histone H4 at Lys16 and has been implicated in cytoskeletal regulation and progression through mitosis (12620231,16648462). SirT2 protein is mainly cytoplasmic and is associated with microtubules and HDAC6, another tubulin deacetylase (12620231). Deacetylation of a-tubulin decreases its stability and may be required for proper regulation of cell shape, intracellular transport, cell motility, and cell division (12620231,10966460). The abundance and phosphorylation state of SirT2 increase at the G2/M transition of the cell cycle, and SirT2 relocalizes to chromatin during mitosis when histone H4 Lys16 acetylation levels decrease (16648462,12697818). Overexpression of SirT2 prolongs mitosis, while overexpression of the CDC14B phosphatase results in both decreased phosphorylation and abundance of SirT2, allowing for proper mitotic exit (12697818). Thus, the deacetylation of both histone H4 and atubulin by SirT2 may be critical for proper chromatin and cytoskeletal dynamics required for completion of mitosis. This antibody recognizes the 37-45 KD SIRT2 proteins. This antibody is a specific antibody that it can't detect signal with SIRT2-KO samples.

# **Notable Publications**

Author	Pubmed ID	Journal	Application
Xiaodan Sun	31572453	Front Genet	IHC
Min Liu	28871079	Nat Commun	WB
Kelly A Chamberlain	34506725	Neuron	WB,IF

### 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

#### \*\*\* 20ul sizes contain 0.1% BSA

For technical support and original validation data for this product please contact: T: 1 (888) 4PTGLAB (1-888-478-4522) (toll free in USA), or 1(312) 455-8498 (outside USA)

E: proteintech@ptglab.com W: ptglab.com

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

#### **Positive Controls**

WB: mouse brain tissue, human brain tissue, rat brain tissue

IP: mouse brain tissue.

IHC : rat brain tissue, human skeletal muscle tissue, mouse brain tissue, human heart tissue

# Selected Validation Data



Various lysates were subjected to SDS PAGE followed by western blot with 19655-1-AP (SIRT2 antibody) at dilution of 1:10000 incubated at room temperature for 1.5 hours.



IP result of anti-SIRT2 (IP:19655-1-AP, 4ug; Detection:19655-1-AP 1:800) with mouse brain tissue lysate 4000 ug.



IF results of SIRT2 (19655-1-AP) antibody with cortex slides of SITR2-WT and SIRT2-KO samples.



Immunohistochemical analysis of paraffinembedded rat brain tissue slide using 19655-1-AP (SIRT2 antibody) at dilution of 1:1000 (under 40x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).