

Anti-SIRT7 Antibody [PSH09-17]

HA723075



Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IF-Cell, IHC-P, IP, ChIP
Molecular Wt:	Predicted band size: 45 kDa
Clone number:	PSH09-17

Description: NAD-dependent deacetylase sirtuin 7 is an enzyme that in humans is encoded by the SIRT7 gene. SIRT7 is member of the mammalian sirtuin family of proteins, which are homologs to the yeast Sir2 protein. SIRT7 facilitates the transcription of DNA by DNA polymerase I, DNA polymerase II, and DNA polymerase III. In human cells, SIRT7 has only been shown to interact with two other molecules: RNA polymerase I (RNA Pol I) and upstream binding factor (UBF). SIRT7 is localized to the nucleolus and interacts with RNA Pol I. Chromatin immunoprecipitation studies demonstrate that SIRT7 localizes to rDNA, and coimmunoprecipitation shows that SIRT7 binds RNA Pol I.

Immunogen: Recombinant protein within human SIRT7 aa 1-400.

Positive control: HEK-293 cell lysate, HeLa cell lysate, U-2 OS cell lysate, Neuro-2a cell lysate, C6 cell lysate, Mouse liver tissue lysate, Rat spleen tissue lysate, RAW264.7, mouse liver tissue.

Subcellular location: Nucleus, nucleolus, nucleoplasm, Chromosome, Cytoplasm.

Database links: SwissProt: Q9NRC8 Human | Q8BKJ9 Mouse | B2RZ55 Rat

Recommended Dilutions:

WB	1:2,000
IF-Cell	1:100
IHC-P	1:500
IP	1-2µg/sample
ChIP	Use 0.5~2 µg for 25 µg of chromatin.

Storage Buffer: PBS (pH7.4), 0.1% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction: Shipped at 4°C. Store at +4°C short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20°C long term.

Purity: Protein A affinity purified.

Hangzhou Huaan Biotechnology Co., Ltd.

Orders:0086-571-88062880

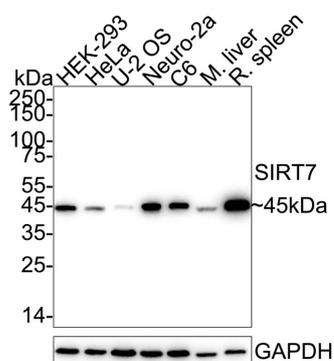
Technical:0086-571-89986345

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Images

Fig1: Western blot analysis of SIRT7 on different lysates with Rabbit anti-SIRT7 antibody (HA723075) at 1/2,000 dilution.



Lane 1: HEK-293 cell lysate

Lane 2: HeLa cell lysate

Lane 3: U-2 OS cell lysate

Lane 4: Neuro-2a cell lysate

Lane 5: C6 cell lysate

Lane 6: Mouse liver tissue lysate

Lane 7: Rat spleen tissue lysate

Lysates/proteins at 20 µg/Lane.

Predicted band size: 45 kDa

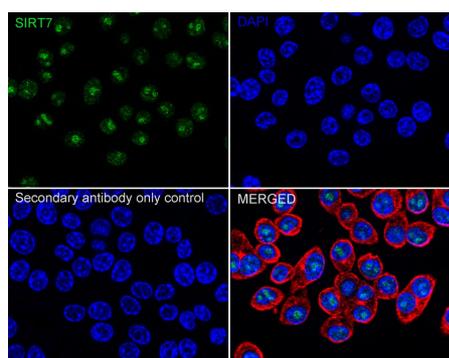
Observed band size: 45 kDa

Exposure time: 3 minutes; ECL: K1801;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA723075) at 1/2,000 dilution was used in 5% NFDM/TBST at 4°C overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

Fig2: Immunocytochemistry analysis of RAW264.7 cells labeling SIRT7 with Rabbit anti-SIRT7 antibody (HA723075) at 1/100 dilution.



Cells were fixed in 4% paraformaldehyde for 15 minutes at room temperature, permeabilized with 0.1% Triton X-100 in PBS for 15 minutes at room temperature, then blocked with 1% BSA in 10% negative goat serum for 1 hour at room temperature. Cells were then incubated with Rabbit anti-SIRT7 antibody (HA723075) at 1/100 dilution in 1% BSA in PBST overnight at 4 °C. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control. Nuclear DNA was labelled in blue with DAPI.

Beta tubulin (HA601187, red) was stained at 1/100 dilution overnight at +4°C. Goat Anti-Mouse IgG H&L (iFluor™ 594, HA1126) was used as the secondary antibody at 1/1,000 dilution.

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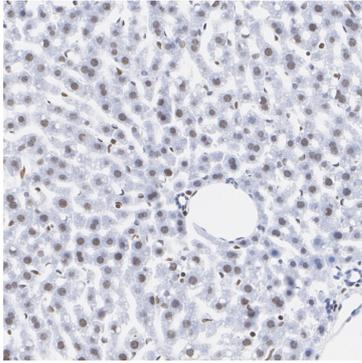


Fig3: Immunohistochemical analysis of paraffin-embedded mouse liver tissue with Rabbit anti-SIRT7 antibody (HA723075) at 1/500 dilution.

The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) (high pressure) for 2 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH₂O and PBS, and then probed with the primary antibody (HA723075) at 1/500 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

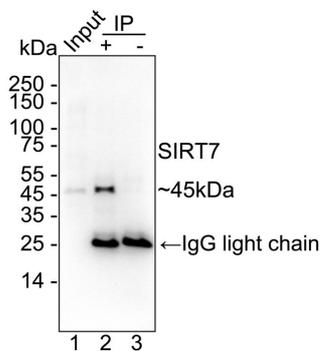


Fig4: SIRT7 was immunoprecipitated from 0.2 mg HeLa cell lysate with HA723075 at 2 µg/10 µl beads. Western blot was performed from the immunoprecipitate using HA723075 at 1/1,000 dilution. Mouse Anti-Rabbit IgG kappa light chain secondary antibody (M1208-2) at 1/5,000 dilution was used for 1 hour at room temperature.

Lane 1: HeLa cell lysate (input)

Lane 2: HA723075 IP in HeLa cell lysate

Lane 3: Rabbit IgG instead of HA723075 in HeLa cell lysate

Blocking/Dilution buffer: 5% NFD/MTBST

Exposure time: 30 seconds; ECL: K1802

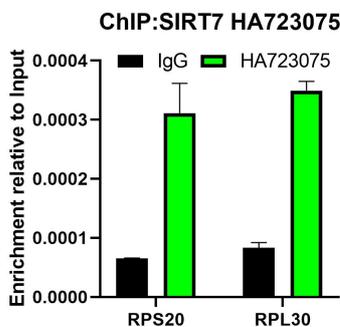


Fig5: Chromatin immunoprecipitations were performed with cross-linked chromatin from HeLa cells with SIRT7 (HA723075) or Normal Rabbit IgG according to the ChIP protocol. The enriched DNA was quantified by real-time PCR using indicated primers. The amount of immunoprecipitated DNA in each sample is represented as signal relative to the total amount of input chromatin, which is equivalent to one.

Note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

Background References

1. Raza U et al. SIRT7: the seventh key to unlocking the mystery of aging. *Physiol Rev.* 2024 Jan
2. Yamagata K et al. The Emerging Role of SIRT7 in Glucose and Lipid Metabolism. *Cells.* 2023 Dec

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