bs-0921R **[Primary Antibody]**

SIRT1 Rabbit pAb

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DATASHEET

Host: Rabbit **Isotype:** IgG

Clonality: Polyclonal

GeneID: 23411 **SWISS:** Q96EB6

Target: SIRT1

Immunogen: KLH conjugated synthetic peptide derived from human SirtT1: 101-200/747.

Purification: affinity purified by Protein A

Concentration: 1mg/ml

Storage: 0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol. Shipped at 4°C. Store at -20°C for one year. Avoid repeated freeze/thaw cycles.

Background: This gene encodes a member of the sirtuin family of proteins, homologs to the yeast Sir2 protein. Members of the sirtuin family are characterized by a sirtuin core domain and grouped into four classes. The functions of human sirtuins have not yet been determined; however, yeast sirtuin proteins are known to regulate epigenetic gene silencing and suppress recombination of rDNA. Studies suggest that the human sirtuins may function as intracellular regulatory proteins with mono-ADP-ribosyltransferase activity. The protein encoded by this gene is included in class I of the sirtuin family. Alternative splicing results in multiple transcript variants. Function : SirtT1 75 kDa fragment: catalytically inactive 75SirT1 may be involved in regulation of apoptosis. May be involved in protecting chondrocytes from apoptotic death by associating with cytochrome C and interfering with apoptosome assembly. Subunit : Found in a complex with PCAF and MYOD1. Component of the eNoSC complex, composed of SIRT1, SUV39H1 and RRP8. Interacts with HES1, HEY2 and PML. Interacts with RPS19BP1/AROS. Interacts with KIAA1967/DBC1 (via N-terminus); the interaction disrupts the interaction between SIRT1 and p53/TP53. Interacts with SETD7; the interaction induces the dissociation of SIRT1 from p53/TP53 and increases p53/TP53 activity. Interacts with MYCN, NR1I2, CREBZF, TSC2, TLE1, FOS, JUN, NR0B2, PPARG, NCOR, IRS1, IRS2 and NMNAT1. Interacts with HNF1A; the interaction occurs under nutrient restriction. Interacts with SUZ12; the interaction mediates the association with the PRC4 histone methylation complex which is specific as an association with PCR2 and PCR3 complex variants is not found. Interacts with HIV-1 tat. Subcellular Location : Nucleus, PML body. Cytoplasm. Note=Recruited to the nuclear bodies via its interaction with PML. Colocalized with APEX1 in the nucleus. May be found in nucleolus, nuclear euchromatin, heterochromatin and inner membrane. Shuttles between nucleus and cytoplasm. SirtT1 75 kDa fragment: Cytoplasm. Mitochondrion. Tissue Specificity : Widely expressed. Post-translational modifications : Methylated on multiple lysine residues; methylation is enhanced after DNA damage and is dispensable for deacetylase activity toward p53/TP53. Phosphorylated. Phosphorylated by STK4/MST1, resulting in inhibition of SIRT1-mediated p53/TP53 deacetylation. Phosphorylation by MAPK8/JNK1 at Ser-27, Ser-47, and Thr-530 leads to increased nuclear localization and enzymatic activity. Phosphorylation at Thr-530 by DYRK1A and DYRK3 acivates deacetylase activity and promotes cell survival. Phosphorylation by mammalian target of rapamycin complex 1 (mTORC1) at Ser-47 inhibits deacetylation activity. Phosphorylated by CaMK2, leading to increased p53/TP53 and NF-kappa-B p65/RELA deacetylation activity (By similarity). Phosphorylation at Ser-27 implicating MAPK9 is linked to protein stability. There is some ambiguity for some phosphosites: Ser-159/Ser-162 and Thr-544/Ser-545. Proteolytically cleaved by cathepsin B upon TNF-alpha treatment to yield catalytic inactive but stable SirtT1 75 kDa fragment (75SirT1). S-nitrosylated by GAPDH, leading to inhibit the NAD-dependent protein deacetylase activity (By similarity). Similarity : Belongs to the sirtuin family. Contains 1 deacetylase sirtuin-type domain.

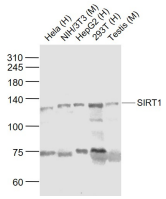
Applications : **WB** (1:500-2000)
IHC-P (1:100-500)
IHC-F (1:100-500)
IF (1:100-500)
Flow-Cyt (1ug/Test)

Reactivity: Human, Mouse (predicted: Rabbit, Pig, Dog, Horse)

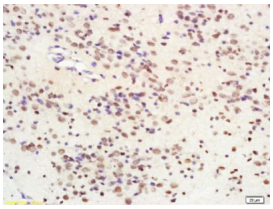
Predicted MW.: 58/81 kDa

Subcellular Location: Cytoplasm ,Nucleus

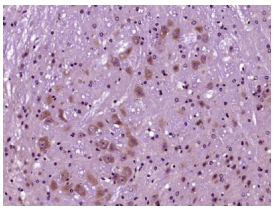
VALIDATION IMAGES



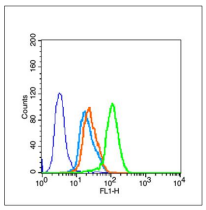
Sample: Lane 1: Hela (Human) Cell Lysate at 30 ug Lane 2: NIH/3T3 (Mouse) Cell Lysate at 30 ug Lane 3: HepG2 (Human) Cell Lysate at 30 ug Lane 4: 293T (Human) Cell Lysate at 30 ug Lane 5: Testis (Mouse) Lysate at 40 ug Primary: Anti-SIRT1 (bs-0921R) at 1/1000 dilution Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution Predicted band size: 116/95 kD Observed band size: 116 kD



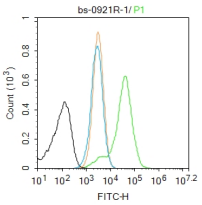
Paraformaldehyde-fixed, paraffin embedded (human glioma tissue); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (SIRT1) Polyclonal Antibody, Unconjugated (bs-0921R) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining.



Paraformaldehyde-fixed, paraffin embedded (mouse brain); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (SIRT1) Polyclonal Antibody, Unconjugated (bs-0921R) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining.



Blank control (blue line): MCF 7 (blue). Primary Antibody (green line): Rabbit Anti-SIRT1 antibody (bs-0921R) Dilution: 3µg /10^5 cells; Isotype Control Antibody (orange line): Rabbit IgG . Secondary Antibody (white blue line): Goat anti-rabbit IgG-FITC Dilution: 1µg /test. Protocol The cells were fixed with 70% methanol (Overnight at 4°C) and then permeabilized with 90% ice-cold methanol for 30 min on ice. Cells stained with Primary Antibody for 30 min at room temperature. The cells were then incubated in 1 X PBS/2%BSA/10% goat serum to block non-specific protein-protein interactions followed by the antibody for 15 min at room temperature. The secondary antibody used for 40 min at room temperature. Acquisition of 20,000 events was performed.



Blank control:HL-60. Primary Antibody (green line): Rabbit Anti-SIRT1 antibody (bs-2257R) Dilution: 1µg /10^6 cells; Isotype Control Antibody (orange line): Rabbit IgG . Secondary Antibody : Goat anti-rabbit IgG-AF488 Dilution: 1µg /test. Protocol The cells were fixed with 4% PFA (10min at room temperature)and then permeabilized with 0.1% PBST for 20 min at room temperature. The cells were then incubated in 5%BSA to block non-specific protein-protein interactions for 30 min at room temperature .Cells stained with Primary Antibody for 30 min at room temperature. The secondary antibody used for 40 min at room temperature. Acquisition of 20,000 events was performed.

SELECTED CITATIONS

- **[IF=10.6]** Zhang Yeshen. et al. Neutrophil N1 polarization induced by cardiomyocyte-derived extracellular vesicle miR-9-5p aggravates myocardial ischemia/reperfusion injury. J NANOBIOTECHNOL. 2024 Dec;22(1):1-25 WB ;Mouse. 39415256
- **[IF=7.518]** Qi Guo. et al. Adiponectin treatment improves insulin resistance in mice by regulating the expression of the mitochondrial-derived peptide MOTS-c and its response to exercise via APPL1–SIRT1–PGC-1α. Diabetologia. 2020 Dec;63(12):2675-2688 WB ;Mouse. 32880686
- **[IF=8.1]** Fei Yu. et al. Repair of Osteoporotic Bone Defects in Rats via the Sirtuin 1-Wnt/β-catenin Signaling Pathway by Novel Icariin/Porous Magnesium Alloy Scaffolds. Biomaterials Research. 2024 Dec;28:0090 IHC ;Rat. 39655164
- **[IF=6.7]** Zhao Xu. et al. Sirt1 inhibits macrophage polarization and inflammation in gouty arthritis by inhibiting the MAPK/NF-κB/AP-1 pathway and activating the Nrf2/HO-1 pathway. INFLAMM RES. 2024 May;:1-12 IHC ;Mouse. 38739197
- **[IF=5.882]** Wangrui Lei. et al. Psoralidin protects against cerebral hypoxia/reoxygenation injury: Role of GAS6/Axl signaling. PHYTOTHER RES. 2022 May 18 WB ;Human,Mouse. 35583809