SANTA CRUZ BIOTECHNOLOGY, INC.

SIRT2 (A-5): sc-28298

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The silent information regulator (SIR2) family of genes are highly conserved from prokaryotes to eukaryotes and are involved in diverse processes, including transcriptional regulation, cell cycle progression, DNA-damage repair and aging. In *S. cerevisiae,* Sir2p deacetylates histones in a NAD-dependent manner, which regulates silencing at the telomeric, rDNA and silent mating-type loci. Sir2p is the founding member of a large family, designated sirtuins, which contain a conserved catalytic domain. The human homologs, which include SIRT1-7, are divided into four main branches: SIRT1-3 are class I, SIRT4 is class II, SIRT5 is class III and SIRT6-7 are class IV. SIRT proteins may function via mono-ADP-ribosylation of proteins. SIRT2 contains a 323 amino acid catalytic core domain with a NAD-binding domain and a large groove which is the likely site of catalysis.

CHROMOSOMAL LOCATION

Genetic locus: SIRT2 (human) mapping to 19q13.2; Sirt2 (mouse) mapping to 7 A3.

SOURCE

SIRT2 (A-5) is a mouse monoclonal antibody raised against amino acids 1-95 of SIRT2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SIRT2 (A-5) is available conjugated to agarose (sc-28298 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-28298 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-28298 PE), fluorescein (sc-28298 FITC), Alexa Fluor® 488 (sc-28298 AF488), Alexa Fluor® 546 (sc-28298 AF546), Alexa Fluor® 594 (sc-28298 AF594) or Alexa Fluor® 647 (sc-28298 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-28298 AF680) or Alexa Fluor® 790 (sc-28298 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

SIRT2 (A-5) is recommended for detection of SIRT2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1,000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for SIRT2 siRNA (h): sc-40988, SIRT2 siRNA (m): sc-40989, SIRT2 shRNA Plasmid (h): sc-40988-SH, SIRT2 shRNA Plasmid (m): sc-40989-SH, SIRT2 shRNA (h) Lentiviral Particles: sc-40988-V and SIRT2 shRNA (m) Lentiviral Particles: sc-40989-V.

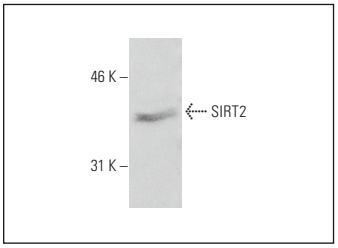
Molecular Weight of SIRT2: 43 kDa.

Positive Controls: 3611-RF whole cell lysate: sc-2215 or HeLa whole cell lysate: sc-2200.

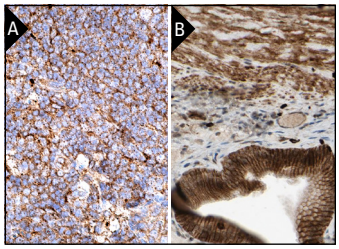
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



SIRT2 (A-5): sc-28298 Western blot analysis of SIRT2 expression in 3611-RF whole cell lysate.



SIRT2 (A-5): sc-28298. Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing cytoplasmic staining of cells in germinal and non-germinal centers (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder tissue showing cytoplasmic and membrane staining of glandular cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (**B**).

SELECT PRODUCT CITATIONS

1. Suzuki, K. and Koike, T. 2007. Resveratrol abolishes resistance to axonal degeneration in slow Wallerian degeneration (WldS) mice: activation of SIRT2, an NAD-dependent Tubulin deacetylase. Biochem. Biophys. Res. Commun. 359: 665-671.
2. Yao, X.H., et al. 2013. Prenatal ethanol exposure causes glucose intolerance with increased hepatic gluconeogenesis and histone deacetylases in adult rat offspring: reversal by tauroursodeoxycholic acid. PLoS ONE 8: e59680.
3. Nwachukwu, J.C., et al. 2014. Resveratrol modulates the inflammatory response via an estrogen receptor-signal integration network. Elife 3: e02057.
4. Smith, C. and D'Mello, S.R. 2015. Cell and context-dependent effects of the heat shock protein DNAJB6 on neuronal survival. Mol. Neurobiol. 53: 1-12.
5. Kocaturk, T., et al. 2016. The effect of methimazole-induced postnatal hypothyroidism on the retinal maturation and on the sirtuin 2 level. Cutan. Ocul. Toxicol. 35: 36-40.
6. Wang, Y., et al. 2017. SIRT2-mediated FOXO3a deacetylation drives its nuclear translocation triggering FasL-induced cell apoptosis during renal ischemia reperfusion. Apoptosis 22: 519-530.
7. Funato, K., et al. 2018. SIRT2-mediated inactivation of p73 is required for glioblastoma tumorigenicity. EMBO Rep. 19: e45587.
8. Shu, L., et al. 2019. Post-stroke microglia induce sirtuin2 expression to suppress the anti-inflammatory function of infiltrating regulatory T cells. Inflammation 42: 1968-1979.

RESEARCH USE

For research use only, not for use in diagnostic procedures.