SANTA CRUZ BIOTECHNOLOGY, INC.

SIRT6 (2G1H1): sc-517196

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Sirtuins (SIRT1-7) are human homologs of the yeast Sir2 (silent information regulator-2) protein and are divided into four main classes: SIRT1-3 are class I, SIRT4 is class II, SIRT5 is class III and SIRT6-7 are class IV. In *S. cerevisiae*, Sir2 deacetylates histones in a NAD-dependent manner, which regulates silencing at the telomeric, rDNA (ribosomal DNA) and silent mating-type loci. The human SIRT proteins are NAD-dependent deacetylases that act as intracellular regulators and are thought to have ribosyltransferase activity. SIRT6 (sirtuin 6), also known as SIR2L6, is a 355 amino acid protein that contains one deacetylase sirtuin-type domain and belongs to the sirtuin family. Localized to the nucleus, SIRT6 functions as an NAD^+-dependent Histone H3 lysine 9 (H3K9) deacetylase that modulates telomeric chromatin and is involved in DNA repair and telomeric longevity. SIRT6 binds zinc as a cofactor and is expressed as four isoforms that are produced as a result of alternative splicing events.

CHROMOSOMAL LOCATION

Genetic locus: SIRT6 (human) mapping to 19p13.3.

SOURCE

SIRT6 (2G1H1) is a mouse monoclonal antibody raised against a partial recombinant protein corresponding to amino acids 141-250 of SIRT6 of human origin.

PRODUCT

Each vial contains 50 µg IgG_1 kappa light chain in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

SIRT6 (2G1H1) is recommended for detection of SIRT6 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for SIRT6 siRNA (h): sc-63028, SIRT6 shRNA Plasmid (h): sc-63028-SH and SIRT6 shRNA (h) Lentiviral Particles: sc-63028-V.

Molecular Weight of SIRT6: 40 kDa.

Positive Controls: human SIRT6 (141-250)-hIgGFc transfected HEK293 whole cell lysate.

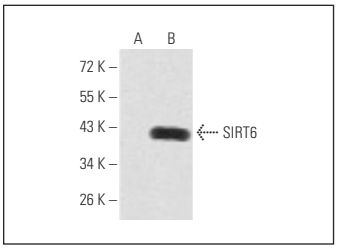
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

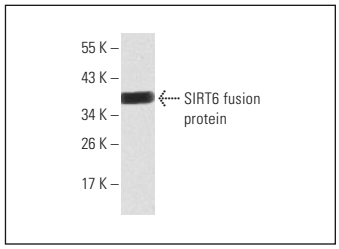
STORAGE

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

DATA



SIRT6 (2G1H1): sc-517196. Western blot analysis of SIRT6 expression in non-transfected (**A**) and human SIRT6 (141-250)-hIgGFc transfected (**B**) HEK293 whole cell lysates.



SIRT6 (2G1H1): sc-517196. Western blot analysis of human recombinant SIRT6 (141-250) fusion protein.

SELECT PRODUCT CITATIONS

1. Liu, J., et al. 2018. Coordination of FOXA2 and SIRT6 suppresses the hepatocellular carcinoma progression through ZEB2 inhibition. Cancer Manag. Res. 10: 391-402.
2. Zhu, Y., et al. 2019. Dynamic regulation of ME1 phosphorylation and acetylation affects lipid metabolism and colorectal tumorigenesis. Mol. Cell 77: 138-149.
3. Qing, E., et al. 2020. Distinct roles for sialoside and protein receptors in coronavirus infection. mBio 11: e02764-19.
4. Ruan, Z.F., et al. 2020. MiR-370 accelerated cerebral ischemia reperfusion injury via targeting SIRT6 and regulating Nrf2/ARE signal pathway. Kaohsiung J. Med. Sci. 36: 741-749.
5. Wang, H., et al. 2021. Reciprocal interaction between SIRT6 and APC/C regulates genomic stability. Sci. Rep. 11: 14253.
6. Wang, B., et al. 2022. Paternal high-fat diet altered sperm 5'tsRNA-Gly-GCC is associated with enhanced gluconeogenesis in the offspring. Front. Mol. Biosci. 9: 857875.
7. Lee, Y.T., et al. 2022. Sex-divergent expression of cytochrome P450 and SIRTUIN 1-7 proteins in toxicity evaluation of a benzimidazole-derived epigenetic modulator in mice. Toxicol. Appl. Pharmacol. 445: 116039.
8. Park, S.Y., et al. 2022. Valdecoxib attenuates lipid-induced hepatic steatosis through autophagy-mediated suppression of endoplasmic reticulum stress. Biochem. Pharmacol. 199: 115022.
9. Potocnjak, I., et al. 2022. Oleanolic acid induces HCT116 colon cancer cell death through the p38/FOXO3a/SIRT6 pathway. Chem. Biol. Interact. 363: 110010.

RESEARCH USE

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