SANTA CRUZ BIOTECHNOLOGY, INC.

DEC1 (S-8): sc-101023



BACKGROUND

Human DEC1, also known as SHARP2, is a 412 amino acid, basic helixloop-helix (bHLH) containing protein that is involved in the control of proliferation and/or differentiation of several cell types including nerve cells, fibroblasts and chondrocytes. The bHLH region of DEC1 is structurally similar to the bHLH regions of the mammalian HES family, *Drosophila* hairy and *Drosophila* Enhancer of split m7. DEC1 is a novel direct target for cAMP in a wide range of cells, and is involved in the control of gene expression in cAMP-activated cells. Brief light impulses induce the expression of DEC1 in a phase-dependent manner. DEC1 is highly expressed in cartilage, intestine, lung and spleen. DEC1 and DEC2 play a role in regulating the mammalian molecular clock by suppressing the transcription of specific clock genes. Both DEC1 and DEC2 are detected in the suprachiasmic nucleus in a circadian fashion.

CHROMOSOMAL LOCATION

Genetic locus: BHLHE40 (human) mapping to 3p26.1; Bhlhe40 (mouse) mapping to 6 E2.

SOURCE

DEC1 (S-8) is a mouse monoclonal antibody raised against a partial recombinant protein corresponding to the internal region of DEC1 of human origin.

PRODUCT

Each vial contains 100 $\mu g\, lgG_{2b}$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

DEC1 (S-8) is recommended for detection of DEC1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for DEC1 siRNA (h): sc-106769, DEC1 siRNA (m): sc-142950, DEC1 shRNA Plasmid (h): sc-106769-SH, DEC1 shRNA Plasmid (m): sc-142950-SH, DEC1 shRNA (h) Lentiviral Particles: sc-106769-V and DEC1 shRNA (m) Lentiviral Particles: sc-142950-V.

Molecular Weight of DEC1: 43 kDa.

Positive Controls: DEC1 (h2): 293T Lysate: sc-172246 or Hep G2 cell lysate: sc-2227.

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).

STORAGE

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

DATA





DEC1 (S-8): sc-101023. Western blot analysis of DEC1 expression in non-transfected: sc-117752 (**A**) and human DEC1 transfected: sc-172246 (**B**) 293T whole cell lysates.

DEC1 (S-8): sc-101023. Western blot analysis of DEC1 expression in non-transfected: sc-110760 (**A**) and human DEC1 transfected: sc-128425 (**B**) 293 whole cell lysates.

SELECT PRODUCT CITATIONS

- Edwards, R.A., et al. 2009. Epigenetic repression of DNA mismatch repair by inflammation and hypoxia in inflammatory bowel disease-associated colorectal cancer. Cancer Res. 69: 6423-6429.
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- Yeh, C.N., et al. 2014. Identification of aurora kinase A as an unfavorable prognostic factor and potential treatment target for metastatic gastrointestinal stromal tumors. Oncotarget 5: 4071-4086.
- 5. Asanoma, K., et al. 2015. Regulation of the mechanism of TWIST1 transcription by BHLHE40 and BHLHE41 in cancer cells. Mol. Cell. Biol. 35: 4096-4109.
- Boutoual, R., et al. 2018. Defects in the mitochondrial-tRNA modification enzymes MT01 and GTPBP3 promote different metabolic reprogramming through a HIF-PPARγ-UCP2-AMPK axis. Sci. Rep. 8: 1163.
- Li, S., et al. 2020. Effect of DEC1 on the proliferation, adhesion, invasion and epithelial-mesenchymal transition of osteosarcoma cells. Exp. Ther. Med. 19: 2360-2366.
- Zampetidis, C.P., et al. 2021. A recurrent chromosomal inversion suffices for driving escape from oncogene-induced senescence via subTAD reorganization. Mol. Cell 81: 4907-4923.e8.
- Jia, Y., et al. 2022. DEC1 promotes progression of *Helicobacter pylori*positive gastric cancer by regulating Akt/NF_KB pathway. J. Cell. Mol. Med. 26: 1943-1954.

RESEARCH USE

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