

DEC1 (S-8): sc-101023



The Power to Question

BACKGROUND

Human DEC1, also known as SHARP2, is a 412 amino acid, basic helix-loop-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 suprachiasmatic nucleus in a circadian fashion.

REFERENCES

- Shen, M., et al. 1997. Molecular characterization of the novel basic helix-loop-helix protein DEC1 expressed in differentiated human embryo chondrocytes. *Biochem. Biophys. Res. Commun.* 236: 294-298.
- Shen, M., et al. 2001. Induction of basic helix-loop-helix protein DEC1 (bHLHB2)/Stra13/Sharp2 in response to the cyclic adenosine mono-phosphate pathway. *Eur. J. Cell Biol.* 80: 329-334.

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 µg IgG_{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 µg per 100-500 µg 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.

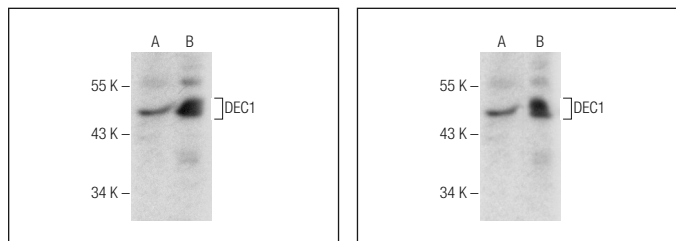
Molecular Weight of DEC1: 43 kDa.

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

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.
- Xu, J., et al. 2010. Hepatitis B virus X protein blunts senescence-like growth arrest of human hepatocellular carcinoma by reducing Notch1 cleavage. *Hepatology* 52: 142-154.
- Ren, G., et al. 2012. A micro-RNA connection in BRAF(V600E)-mediated premature senescence of human melanocytes. *Int. J. Cell Biol.* 2012: 913242.
- Richards, J., et al. 2013. Opposing actions of Per1 and Cry2 in the regulation of Per1 target gene expression in the liver and kidney. *Am. J. Physiol. Regul. Integr. Comp. Physiol.* 305: R735-R747.
- 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.
- 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 MTO1 and GTPBP3 promote different metabolic reprogramming through a HIF-PPAR γ -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.
- Xu, W., et al. 2020. Downregulation of DEC1 by RNA interference attenuates ischemia/reperfusion-induced myocardial inflammation by inhibiting the TLR4/NF κ B signaling pathway. *Exp. Ther. Med.* 20: 343-350.

RESEARCH USE

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