

DEC2 (E-4): sc-373763

BACKGROUND

Human DEC1 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* Hairly 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. DEC2, also known as SHARP1, is highly expressed in skeletal muscle and brain. The gene encoding human DEC2 maps to chromosome 12p12.1. 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. Brief light impulses induce the expression of DEC1 in a phase-dependent manner.

CHROMOSOMAL LOCATION

Genetic locus: BHLHE41 (human) mapping to 12p12.1.

SOURCE

DEC2 (E-4) is a mouse monoclonal antibody raised against amino acids 411-482 mapping at the C-terminus of DEC2 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-373763 X, 200 µg/0.1 ml.

DEC2 (E-4) is available conjugated to agarose (sc-373763 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-373763 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-373763 PE), fluorescein (sc-373763 FITC), Alexa Fluor® 488 (sc-373763 AF488), Alexa Fluor® 546 (sc-373763 AF546), Alexa Fluor® 594 (sc-373763 AF594) or Alexa Fluor® 647 (sc-373763 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-373763 AF680) or Alexa Fluor® 790 (sc-373763 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

DEC2 (E-4) is recommended for detection of DEC2 of human origin by Western Blotting (starting dilution 1:100, 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 DEC2 siRNA (h): sc-37769, DEC2 shRNA Plasmid (h): sc-37769-SH and DEC2 shRNA (h) Lentiviral Particles: sc-37769-V.

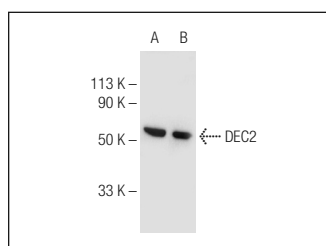
DEC2 (E-4) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Positive Controls: SH-SY5Y nuclear extract: sc-364820, U266 whole cell lysate: sc-364800 or IMR-32 nuclear extract: sc-2148.

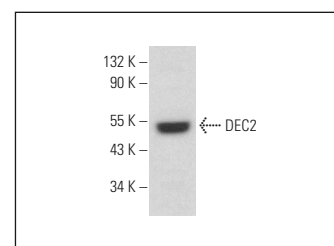
RECOMMENDED SUPPORT REAGENTS

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.

DATA



DEC2 (E-4): sc-373763. Western blot analysis of DEC2 expression in SH-SY5Y (A) and IMR-32 (B) nuclear extracts.



DEC2 (E-4): sc-373763. Western blot analysis of DEC2 expression in U266 whole cell lysate.

SELECT PRODUCT CITATIONS

- 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.
- Kusunose, N., et al. 2018. Contribution of the clock gene DEC2 to VEGF mRNA upregulation by modulation of HIF1α protein levels in hypoxic MIO-M1 cells, a human cell line of retinal glial (Müller) cells. *Jpn. J. Ophthalmol.* 62: 677-685.
- Asanoma, K., et al. 2019. Mutual suppression between BHLHE40/BHLHE41 and the MIR301B-MIR130B cluster is involved in epithelial-to-mesenchymal transition of endometrial cancer cells. *Oncotarget* 10: 4640-4654.
- Nagata, T., et al. 2021. BHLHE41/DEC2 expression induces autophagic cell death in lung cancer cells and is associated with favorable prognosis for patients with lung adenocarcinoma. *Int. J. Mol. Sci.* 22: 11509.
- Mohammed, S.A., et al. 2022. Multifunctional liposomal nanostructure-mediated siRNA/bortezomib co-delivery for SHARP1 knockdown in MLL-AF6 acute myeloid leukemia. *Mater. Sci. Eng. C Mater. Biol. Appl.* E-published.

STORAGE

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

RESEARCH USE

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