

DEF-3 (D-3): sc-376201

BACKGROUND

DEF-3 and LUCA15 belong to an evolutionarily conserved family of RNA binding proteins and share similar expression patterns. Both DEF-3 and LUCA15 are highly expressed in adult heart and thymus as well as fetal kidney. Conversely, fetal thymus and adult kidney express very little DEF-3 and LUCA15. In the hemopoietic system of mice, the expression of DEF-3 is downregulated upon differentiation of progenitor cells into granulocytes but persists during macrophage development. Both DEF-3 and LUCA15 contain two zinc finger motifs, a bipartite nuclear signal and two RNA binding motifs. DEF-3 and LUCA15 are capable of specifically binding poly(G) RNA. The genes encoding human DEF-3 and LUCA15 map to 3p21.31, a region homozygously deleted in the small cell lung cancer cell line GLC20. The onset of lung cancer arises from mutations in dominant and recessive oncogenes, and chromosome 3p contains many of these recessive oncogenes.

CHROMOSOMAL LOCATION

Genetic locus: RBM6 (human) mapping to 3p21.31; Rbm6 (mouse) mapping to 9 F1.

SOURCE

DEF-3 (D-3) is a mouse monoclonal antibody raised against amino acids 201-500 mapping near the N-terminus of DEF-3 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

DEF-3 (D-3) is available conjugated to agarose (sc-376201 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376201 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376201 PE), fluorescein (sc-376201 FITC), Alexa Fluor® 488 (sc-376201 AF488), Alexa Fluor® 546 (sc-376201 AF546), Alexa Fluor® 594 (sc-376201 AF594) or Alexa Fluor® 647 (sc-376201 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376201 AF680) or Alexa Fluor® 790 (sc-376201 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

DEF-3 (D-3) is recommended for detection of DEF-3 of mouse, rat and 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), 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 DEF-3 siRNA (h): sc-106849, DEF-3 siRNA (m): sc-142953, DEF-3 shRNA Plasmid (h): sc-106849-SH, DEF-3 shRNA Plasmid (m): sc-142953-SH, DEF-3 shRNA (h) Lentiviral Particles: sc-106849-V and DEF-3 shRNA (m) Lentiviral Particles: sc-142953-V.

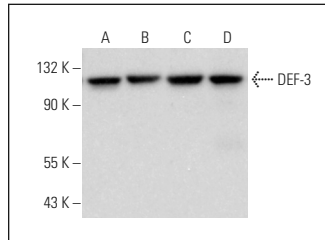
Molecular Weight of DEF-3: 129 kDa.

Positive Controls: Neuro-2A whole cell lysate: sc-364185, SH-SY5Y cell lysate: sc-3812 or KNRK whole cell lysate: sc-2214.

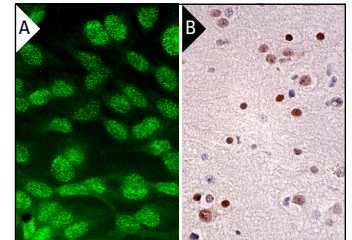
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



DEF-3 (D-3): sc-376201. Western blot analysis of DEF-3 expression in SH-SY5Y (A), KNRK (B) and Neuro-2A (C) whole cell lysates and mouse brain tissue extract (D).



DEF-3 (D-3): sc-376201. Immunofluorescence staining of formalin-fixed Hep G2 cells showing nuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human brain tissue showing nuclear staining of glial and neuronal cells (B).

SELECT PRODUCT CITATIONS

- Liu, H., et al. 2021. lncRNA, PLXDC2-OT promoted the osteogenesis potentials of MSCs by inhibiting the deacetylation function of RBM6/SIRT7 complex and OSX specific isoform. *Stem Cells* 39: 1049-1066.
- Han, J., et al. 2022. Multilayered control of splicing regulatory networks by DAP3 leads to widespread alternative splicing changes in cancer. *Nat. Commun.* 13: 1793.

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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

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