SANTA CRUZ BIOTECHNOLOGY, INC.

LUCA15 (G-2): sc-515419

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

DEF-3 and LUCA15 belong to an evolutionarily conserved family of RNA binding proteins and share similiar 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 haemopoietic 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.

REFERENCES

1. Roche, J., et al. 1996. Distinct 3p21.3 deletions in lung cancer and identification of a new human semaphorin. Oncogene 12: 1289-1297.
2. Gure, A.O., et al. 1998. Human lung cancer antigens recognized by autologous antibodies: definition of a novel cDNA derived from the tumor suppressor gene locus on chromosome 3p21.3. Cancer Res. 58: 1034-1041.
3. Drabkin, H.A., et al. 1999. DEF-3(g16/NY-LU-12), an RNA binding protein from the 3p21.3 homozygous deletion region in SCLC. Oncogene 18: 2589-2597.
4. Hotfilder, M., et al. 1999. Def-2, -3, -6 and -8, novel mouse genes differentially expressed in the haemopoietic system. Br. J. Haematol. 106: 335-344.
5. Timmer, T., et al. 1999. A comparison of genomic structures and expression patterns of two closely related flanking genes in a critical lung cancer region at 3p21.3. Eur. J. Hum. Genet. 7: 478-486.

CHROMOSOMAL LOCATION

Genetic locus: RBM5 (human) mapping to 3p21.31; Rbm5 (mouse) mapping to 9 F1.

SOURCE

LUCA15 (G-2) is a mouse monoclonal antibody raised against amino acids 1-81 mapping at the N-terminus of LUCA15 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

PROTOCOLS

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

APPLICATIONS

LUCA15 (G-2) is recommended for detection of LUCA15 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for LUCA15 siRNA (h): sc-106741, LUCA15 siRNA (m): sc-149141, LUCA15 shRNA Plasmid (h): sc-106741-SH, LUCA15 shRNA Plasmid (m): sc-149141-SH, LUCA15 shRNA (h) Lentiviral Particles: sc-106741-V and LUCA15 shRNA (m) Lentiviral Particles: sc-149141-V.

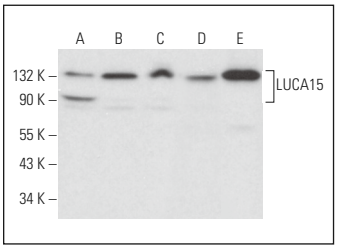
Molecular Weight of LUCA15: 92 kDa.

Positive Controls: HEK293 whole cell lysate: sc-45136, HUV-EC-C whole cell lysate: sc-364180 or KNRK nuclear extract: sc-2141.

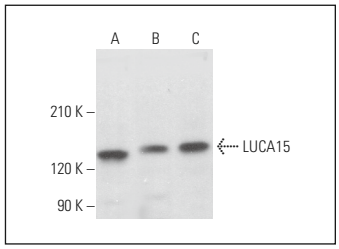
RECOMMENDED SUPPORT REAGENTS

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



LUCA15 (G-2): sc-515419. Western blot analysis of LUCA15 expression in HUV-EC-C (**A**), HEK293 (**B**), JAR (**C**) and J774.A1 (**D**) whole cell lysates and KNRK nuclear extract (**E**).



LUCA15 (G-2): sc-515419. Western blot analysis of LUCA15 expression in AN3 CA (**A**), WEHI-231 (**B**) and RAW 264.7 (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Mullari, M., et al. 2023. Characterising the RNA-binding protein atlas of the mammalian brain uncovers RBM5 misregulation in mouse models of Huntington's disease. Nat. Commun. 14: 4348.

RESEARCH USE

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