

# DEF-3 (G-6): sc-376222

## 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.

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

## SOURCE

DEF-3 (G-6) 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<sub>2a</sub> 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](http://www.scbt.com) for detailed protocols and support products.

## APPLICATIONS

DEF-3 (G-6) 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) 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.

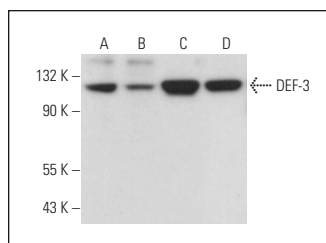
Molecular Weight of DEF-3: 129 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214, Hep G2 nuclear extract: sc-364819 or WI-38 whole cell lysate: sc-364260.

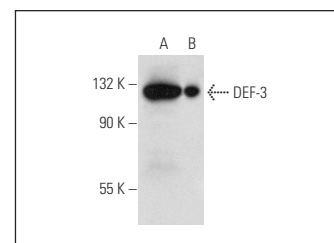
## RECOMMENDED SUPPORT REAGENTS

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



DEF-3 (G-6): sc-376222. Western blot analysis of DEF-3 expression in A549 (A), WI-38 (B), WEHI-231 (C) and KNRK (D) whole cell lysates.



DEF-3 (G-6): sc-376222. Western blot analysis of DEF-3 expression in Hep G2 nuclear extract (A) and human brain tissue extract (B).

## RESEARCH USE

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