

# LEPREL4 (F-7): sc-514276

## BACKGROUND

LEPREL4 (leprecan-like protein 4), also known as SC65 (synaptonemal complex protein SC65) or NOL55 (nucleolar autoantigen No55), is a 437 amino acid protein that belongs to the leprecan family. LEPREL4 is found specifically in the granular component of the nucleolus and during mitosis is found on the surface of chromosomes. LEPREL4 is post-translationally phosphorylated at tyrosine 234 and is encoded by a gene that maps to human chromosome 17. Chromosome 17 comprises over 2.5% of the human genome and encodes over 1,200 genes. Two key tumor suppressor genes are associated with chromosome 17, namely, p53 and BRCA1. Tumor suppressor p53 is necessary for maintenance of cellular genetic integrity by moderating cell fate through DNA repair versus cell death. Malfunction or loss of p53 expression is associated with malignant cell growth and Li-Fraumeni syndrome. Like p53, BRCA1 is directly involved in DNA repair, though specifically it is recognized as a genetic determinant of early onset breast cancer and predisposition to cancers of the ovary, colon, prostate gland and fallopian tubes.

## REFERENCES

- Hall, J.M., et al. 1992. Closing in on a breast cancer gene on chromosome 17q. *Am. J. Hum. Genet.* 50: 1235-1242.
- Ochs, R.L., et al. 1996. cDNA cloning and characterization of a novel nucleolar protein. *Mol. Biol. Cell* 7: 1015-1024.
- Evans, S.C. and Lozano, G. 1997. The Li-Fraumeni syndrome: an inherited susceptibility to cancer. *Mol. Med. Today* 3: 390-395.

## CHROMOSOMAL LOCATION

Genetic locus: P3H4 (human) mapping to 17q21.2; P3h4 (mouse) mapping to 11 D.

## SOURCE

LEPREL4 (F-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 190-210 within an internal region of LEPREL4 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>3</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

LEPREL4 (F-7) is available conjugated to agarose (sc-514276 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514276 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514276 PE), fluorescein (sc-514276 FITC), Alexa Fluor® 488 (sc-514276 AF488), Alexa Fluor® 546 (sc-514276 AF546), Alexa Fluor® 594 (sc-514276 AF594) or Alexa Fluor® 647 (sc-514276 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514276 AF680) or Alexa Fluor® 790 (sc-514276 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-514276 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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## APPLICATIONS

LEPREL4 (F-7) is recommended for detection of LEPREL4 of human and mouse origin and Sc65 of rat 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 LEPREL4 siRNA (h): sc-94183, LEPREL4 siRNA (m): sc-153240, LEPREL4 shRNA Plasmid (h): sc-94183-SH, LEPREL4 shRNA Plasmid (m): sc-153240-SH, LEPREL4 shRNA (h) Lentiviral Particles: sc-94183-V and LEPREL4 shRNA (m) Lentiviral Particles: sc-153240-V.

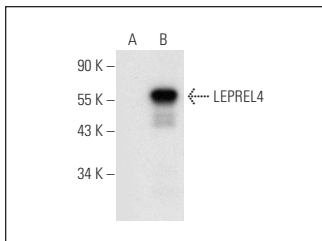
Molecular Weight of LEPREL4: 55 kDa.

Positive Controls: LEPREL4 (h): 293 Lysate: sc-175130, RAW 264.7 whole cell lysate: sc-2211 or EOC 20 whole cell lysate: sc-364187.

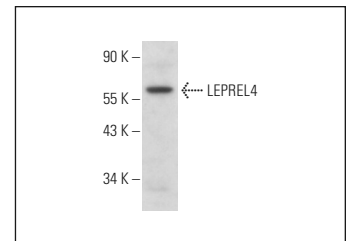
## RECOMMENDED SUPPORT REAGENTS

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



LEPREL4 (F-7): sc-514276. Western blot analysis of LEPREL4 expression in non-transfected: sc-110760 (A) and human LEPREL4 transfected: sc-175130 (B) 293 whole cell lysates.



LEPREL4 (F-7): sc-514276. Western blot analysis of LEPREL4 expression in RAW 264.7 whole cell lysate.

## 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](http://www.scbt.com) for detailed protocols and support products.