SANTA CRUZ BIOTECHNOLOGY, INC.

# EML4 (H.21): sc-130450

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

Microtubules are components of the Actin cytoskeleton that play crucial roles in cell morphogenesis, cell motility, spindle formation and chromosome movements. Echinoderm microtubule-associated (EML) proteins function to modify the assembly dynamics of microtubules. EML4 (echinoderm microtubule-associated protein-like 4), also known as EMAPL4, ELP120, C2orf2 or ROPP120, is a 981 amino acid cytoplasmic protein that contains 9 WD repeats. Expressed at high levels during mitosis, EML4 is thought to modify the assembly dynamics of microtubules, specifically altering microtubules to become longer and more flexible. Due to a chromosomal inversion with chromosome 2p, EML4 may exist as a fusion protein with ALK (anaplastic lymphoma receptor tyrosine kinase), producing an EML4-ALK fusion complex that plays a role in the pathogenesis of lung cancer.

## REFERENCES


1. Heidebrecht, H.J., et al. 2000. Cloning and localization of C2orf2(ropp120), a previously unknown WD repeat protein. Genomics 68: 348-350.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 607442. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Pollmann, M., et al. 2006. Human EML4, a novel member of the EMAP family, is essential for microtubule formation. Exp. Cell Res. 312: 3241-3251.
4. Soda, M., et al. 2007. Identification of the transforming EML4-ALK fusion gene in non-small-cell lung cancer. Nature 448: 561-566.
5. Houtman, S.H., et al. 2007. Echinoderm microtubule-associated protein like protein 4, a member of the echinoderm microtubule-associated protein family, stabilizes microtubules. Neuroscience 144: 1373-1382.
6. Koivunen, J.P., et al. 2008. EML4-ALK fusion gene and efficacy of an ALK kinase inhibitor in lung cancer. Clin. Cancer Res. 14: 4275-4283.
7. Inamura, K., et al. 2008. EML4-ALK fusion is linked to histological characteristics in a subset of lung cancers. J. Thorac. Oncol. 3: 13-17.
8. Perner, S., et al. 2008. EML4-ALK fusion lung cancer: a rare acquired event. Neoplasia 10: 298-302.


## CHROMOSOMAL LOCATION

Genetic locus: EML4 (human) mapping to 2p21.

## SOURCE

EML4 (H.21) is a mouse monoclonal antibody raised against recombinant EML4 of human origin.

## PRODUCT

Each vial contains 100 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.

## APPLICATIONS

EML4 (H.21) is recommended for detection of EML4 of human origin by Western Blotting (starting dilution 1:200, 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 EML4 siRNA (h): sc-77271, EML4 shRNA Plasmid (h): sc-77271-SH and EML4 shRNA (h) Lentiviral Particles: sc-77271-V.

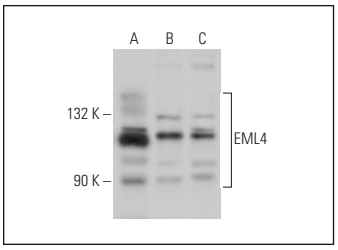
Molecular Weight of EML4: 120 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, A549 cell lysate: sc-2413 or human tonsil tissue extract: sc-364263.

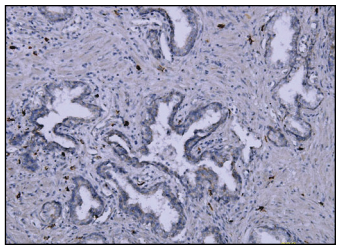
## RECOMMENDED SUPPORT REAGENTS

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, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

## DATA




EML4 (H.21): sc-130450. Western blot analysis of EML4 expression in human tonsil tissue extract (**A**) and Hep G2 (**B**) and A549 (**C**) whole cell lysates.



EML4 (H.21): sc-130450. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human prostate cancer tissue showing cytoplasmic localization.

## 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.