SANTA CRUZ BIOTECHNOLOGY, INC.

EML4 (Q-19): sc-74925

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 nine 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; Eml4 (mouse) mapping to 17 E4.

SOURCE

EML4 (Q-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of EML4 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-74925 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

EML4 (Q-19) is recommended for detection of EML4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

EML4 (Q-19) is also recommended for detection of EML4 in additional species, including equine and bovine.

Suitable for use as control antibody for EML4 siRNA (h): sc-77271, EML4 siRNA (m): sc-77272, EML4 shRNA Plasmid (h): sc-77271-SH, EML4 shRNA Plasmid (m): sc-77272-SH, EML4 shRNA (h) Lentiviral Particles: sc-77271-V and EML4 shRNA (m) Lentiviral Particles: sc-77272-V.

Molecular Weight of EML4: 120 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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 or our catalog for detailed protocols and support products.