SANTA CRUZ BIOTECHNOLOGY, INC.

EPLIN (20): sc-136399

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Epithelial protein lost in neoplasm (EPLIN) is a cytoskeleton-associated protein characterized by the presence of a single centrally located lin-11, isl-1 and mec-3 (LIM) domain. It also contains at least two Actin-binding domains, in which the C-terminal domain binds more effectively than the N-terminal domain. By binding Actin monomers and filaments, EPLIN is involved in regulation of the Actin cytoskeleton by increasing the number and size of Actin stress fibers, delaying filament nucleation, reducing formation of branched filaments and bundling of Actin filaments. It also inhibits membrane ruffling and Actin filament depolymerization. EPLIN is strongly expressed in placenta, kidney, pancreas, prostate, ovary, spleen and heart, and to a lesser degree in lung, liver, brain, skeletal muscle, thymus, testis and intestine. It is expressed as two isoforms, EPLIN-α and EPLIN-β. Downregulation of EPLIN-α expression may contribute to the motility of invasive tumor cells.

CHROMOSOMAL LOCATION

Genetic locus: LIMA1 (human) mapping to 12q13.12; Lima1 (mouse) mapping to 15 F1.

SOURCE

EPLIN (20) is a mouse monoclonal antibody raised against amino acids 1-141 corresponding to the α isoform of EPLIN 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.

EPLIN (20) is available conjugated to agarose (sc-136399 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; and to HRP (sc-136399 HRP), 200 µg/ml, for WB, IHC(P) and ELISA.

APPLICATIONS

EPLIN (20) is recommended for detection of EPLIN of mouse, rat, human and canine 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) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for EPLIN siRNA (h): sc-60593, EPLIN siRNA (m): sc-60594, EPLIN shRNA Plasmid (h): sc-60593-SH, EPLIN shRNA Plasmid (m): sc-60594-SH, EPLIN shRNA (h) Lentiviral Particles: sc-60593-V and EPLIN shRNA (m) Lentiviral Particles: sc-60594-V.

Molecular Weight of EPLIN α: 90 kDa.

Molecular Weight of EPLIN β: 110 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, COLO 320DM cell lysate: sc-2226 or Hep G2 cell lysate: sc-2227.

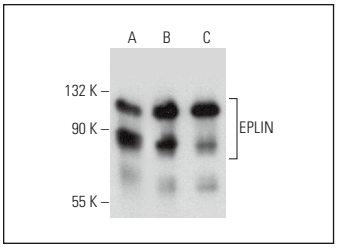
STORAGE

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

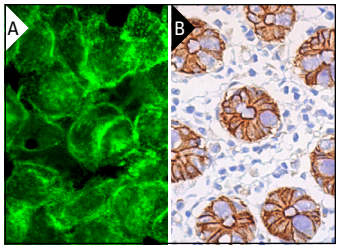
RESEARCH USE

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

DATA



EPLIN (20): sc-136399. Western blot analysis of EPLIN expression in HeLa (**A**), COLO 320DM (**B**) and Hep G2 (**C**) whole cell lysates.



EPLIN (20): sc-136399. Immunofluorescence staining of formalin-fixed A-431 cells showing cytoskeleton localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human rectum tissue showing cytoplasmic and membrane staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Hong, S., et al. 2013. Binding to F-Actin guides cadherin cluster assembly, stability, and movement. J. Cell Biol. 201: 131-143.
2. Succoio, M., et al. 2015. Proteomic analysis reveals novel common genes modulated in both replicative and stress-induced senescence. J. Proteomics 128: 18-29.
3. Kadeer, A., et al. 2017. Plectin is a novel regulator for apical extrusion of RasV12-transformed cells. Sci. Rep. 7: 44328.
4. Kasai, N., et al. 2018. The paxillin-plectin-EPLIN complex promotes apical elimination of RasV12-transformed cells by modulating HDAC6-regulated Tubulin acetylation. Sci. Rep. 8: 2097.
5. Takagi, M., et al. 2018. Accumulation of the Myosin-II-spectrin complex plays a positive role in apical extrusion of Src-transformed epithelial cells. Genes Cells 23: 974-981.
6. Pappa, K.I., et al. 2019. High resolution analysis of the intracellular proteome of cervical cancer cell lines unveils novel regulators of cervical carcinogenesis. Oncol. Rep. 42: 1441-1450.
7. Linklater, E.S., et al. 2021. Rab40-Cullin5 complex regulates EPLIN and Actin cytoskeleton dynamics during cell migration. J. Cell Biol. 220: e202008060.
8. Park, J.H., et al. 2021. Disruption of nucleocytoplasmic trafficking as a cellular senescence driver. Exp. Mol. Med. 53: 1092-1108.
9. Kajiwara, K., et al. 2022. Src activation in lipid rafts confers epithelial cells with invasive potential to escape from apical extrusion during cell competition. Curr. Biol. 32: 3460-3476.e6.
10. Routila, E., et al. 2024. Identification of stemness-related glycosylation changes in head and neck squamous cell carcinoma. BMC Cancer 24: 443.

PROTOCOLS

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