α E-catenin (I-12): sc-31004

SANTA CRUZ
BIOTECHNOLOGY

The Power to Question

BACKGROUND

α E-catenin (also designated α-catenin; cadherin-associated protein, α1, 102 kDa; and CAP102) plays a role in E-cadherin mediated cell-cell adhesion by linking E-cadherin to the cytoskeleton via β- or γ-catenin and Actin. α E-catenin connects cell-density-dependent adherens junctions with the developmental hedgehog pathway and may provide a negative feedback loop controlling the size of developing cerebral cortex. It is abundant in neuro-epithelial precursor cells in the developing cortical ventricular zone of the brain, with reduced expression in the cortical plate. α E-catenin-vinculin interactions play a role in the assembly of the apical junction complex in epithelia. Catenins generally are thought to work as connectors that anchor E-cadherin to the cytoskeletal Actin bundle through the cadherin cytoplasmic domain. Dysfunction of this adhesion complex causes dissociation of cancer cells from primary tumor nodules, and is thus considered a contributing factor to metastasis.

REFERENCES

1. Rimm, D.L., et al. 1995. α_1(E)-catenin is an Actin-binding and -bundling protein mediating the attachment of F-Actin to the membrane adhesion complex. Proc. Natl. Acad. Sci. USA 92: 8813-8817.

2. Linkels, M., et al. 1997. Molecular cloning of an alternative human α E-catenin cDNA. Biochem. Biophys. Res. Commun. 237: 177-181.

3. Watabe-Uchida, M., et al. 1998. α-Catenin-vinculin interaction functions to organize the apical junctional complex in epithelial cells. J. Cell Biol. 142: 847-857.

4. Vermeulen, S.J., et al. 1999. The α E-catenin gene (CTNNA1) acts as an invasion-suppressor gene in human colon cancer cells. Oncogene 18: 905-915.

5. Vanpoucke, G., et al. 2002. The human α E-catenin gene CTNNA1: mutational analysis and rare occurrence of a truncated splice variant. Biochim. Biophys. Acta 1574: 262-268.

6. Andre, F., et al. 2004. α-catenin is required for IGF-I-induced cellular migration but not invasion in human colonic cancer cells. Oncogene 23: 1177-1186.

7. Stocker, A.M., et al. 2006. Differential expression of α E-catenin and α N-catenin in the developing cerebral cortex. Brain Res. 1073-1074: 151-158.

CHROMOSOMAL LOCATION

Genetic locus: CTNNA1 (human) mapping to 5q31; Ctnna1 (mouse) mapping to 18 B1.

SOURCE

α E-catenin (I-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of α E-catenin of human origin.

STORAGE

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

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-31004 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

α E-catenin (I-12) is recommended for detection of α E-catenin 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).

Suitable for use as control antibody for α E-catenin siRNA (h): sc-29190, α E-catenin siRNA (m): sc-29612, α E-catenin shRNA Plasmid (h): sc-29190-SH, α E-catenin shRNA Plasmid (m): sc-29612-SH, α E-catenin shRNA (h) Lentiviral Particles: sc-29190-V and α E-catenin shRNA (m) Lentiviral Particles: sc-29612-V.

Molecular Weight of α E-catenin: 102 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, A-431 whole cell lysate: sc-2201 or RAW 264.7 whole cell lysate: sc-2211.

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.

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.