SANTA CRUZ BIOTECHNOLOGY, INC.

cadherin-16 (E-7): sc-393153

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The cadherins are a family of Ca^{2+}-dependent adhesion molecules that function to mediate cell-cell binding critical to the maintenance of structure and morphogenesis. Cadherins each contain a large extracellular domain at the N-terminus, which is characterized by a series of five homologous repeats, the most distal of which is thought to be responsible for binding specificity. Cadherin-16, also known as Ksp-cadherin, is a type I membrane protein which is kidney-specific. Cadherin-16 is expressed exclusively in the basolateral membrane of renal tubular epithelial cells. The human Ksp-cadherin gene (cadherin-16) maps to chromosome 16q22.1. The mouse Ksp-cadherin gene was localized to a highly syntenic region of distal chromosome 8.

REFERENCES

1. Whyte, D.A., et al. 1999. Ksp-cadherin gene promoter. I. Characterization and renal epithelial cell-specific activity. Am. J. Physiol. 277: F587-F598.
2. Meyer, T.N., et al. 2004. Spatiotemporal regulation of morphogenetic molecules during *in vitro* branching of the isolated ureteric bud: toward a model of branching through budding in the developing kidney. Dev. Biol. 275: 44-67.
3. Jung, K.Y., et al. 2004. Loss of N-cadherin and α-catenin in the proximal tubules of aging male Fischer 344 rats. Mech. Ageing Dev. 125: 445-453.
4. Jiang, J., et al. 2004. Disruption of cadherin/catenin expression, localization, and interactions during $HgCl_2$-induced nephrotoxicity. Toxicol. Sci. 80: 170-182.
5. Mazal, P.R., et al. 2005. Expression of kidney-specific cadherin distinguishes chromophobe renal cell carcinoma from renal oncocytoma. Hum. Pathol. 36: 22-28.

CHROMOSOMAL LOCATION

Genetic locus: CDH16 (human) mapping to 16q22.1; Cdh16 (mouse) mapping to 8 D3.

SOURCE

cadherin-16 (E-7) is a mouse monoclonal antibody raised against amino acids 1-300 mapping at the N-terminus of cadherin-16 of mouse 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.

cadherin-16 (E-7) is available conjugated to agarose (sc-393153 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393153 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393153 PE), fluorescein (sc-393153 FITC), Alexa Fluor® 488 (sc-393153 AF488), Alexa Fluor® 546 (sc-393153 AF546), Alexa Fluor® 594 (sc-393153 AF594) or Alexa Fluor® 647 (sc-393153 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393153 AF680) or Alexa Fluor® 790 (sc-393153 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

cadherin-16 (E-7) is recommended for detection of cadherin-16 of mouse, rat and human 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), 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 cadherin-16 siRNA (h): sc-45610, cadherin-16 siRNA (m): sc-45611, cadherin-16 shRNA Plasmid (h): sc-45610-SH, cadherin-16 shRNA Plasmid (m): sc-45611-SH, cadherin-16 shRNA (h) Lentiviral Particles: sc-45610-V and cadherin-16 shRNA (m) Lentiviral Particles: sc-45611-V.

Molecular Weight (predicted) of cadherin-16: 90 kDa.

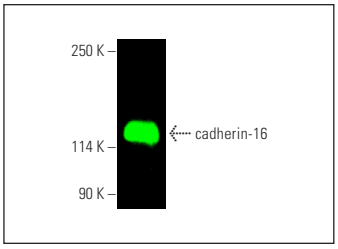
Molecular Weight (observed) of cadherin-16: 84-131 kDa.

Positive Controls: mouse kidney extract: sc-2255.

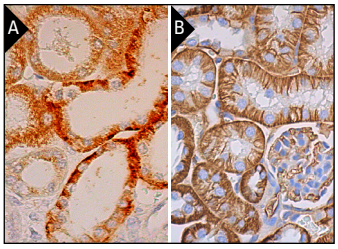
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



cadherin-16 (E-7): sc-393153. Near-Infrared western blot analysis of cadherin-16 expression in mouse kidney tissue extract. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgG_1 BP-CFL 680: sc-533665.



cadherin-16 (E-7): sc-393153. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse kidney tissue showing membrane staining of subset of cells in glomerulus and membrane and cytoplasmic staining of cells in tubules (**B**).

STORAGE

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

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