SANTA CRUZ BIOTECHNOLOGY, INC.

μ-protocadherin (G-10): sc-398841

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The mucin-like protocadherin, μ-protocadherin, is a developmentally regulated, single pass type I transmembrane protein that belongs to the cadherin superfamily. It contains four cadherin-like ectodomains, a triply repeating mucin domain, four SH3 binding regions, N- and O-glycosylation sites and a possible C-terminal PDZ binding domain. μ-protocadherin is expressed in various epithelial tissues and localizes to the apical surface along the brush border of the proximal convoluted tubule. It acts as a calcium dependent cell adhesion molecule mediating cell aggregation and may play a role in the activation of signaling events. Due to alternative splicing at least four isoforms exist for μ-protocadherin. These isoforms vary in the region containing the mucin-like domains. Only the longest isoform contains the triply repeating mucin domain.

REFERENCES

1. Goldberg, M., et al. 2000. μ-protocadherin, a novel developmentally regulated protocadherin with mucin-like domains. J. Biol. Chem. 275: 24622-24629.
2. Paris, M.J. and Williams, B.R. 2000. Characterization of a 500-kb contig spanning the region between c-Ha-Ras and MUC2 on chromosome 11p15.5. Genomics 69: 196-202.
3. Goldberg, M., et al. 2002. Identification and expression analysis of the human μ-protocadherin gene in fetal and adult kidneys. Am. J. Physiol. Renal Physiol. 283: F454-F463.
4. Goldberg, M., et al. 2003. Biallelic expression of HRAS and MUCDHL in human and mouse. Hum. Genet. 112: 334-342.
5. Wang, Y., et al. 2004. Gene expression profiles and molecular markers to predict recurrence of Dukes' B colon cancer. J. Clin. Oncol. 22: 1564-1571.
6. Moulton, D.E., et al. 2004. Expression of a novel cadherin in the mouse and human intestine. Pediatr. Res. 55: 927-934.
7. Redies, C., et al. 2005. δ-protocadherins: unique structures and functions. Cell. Mol. Life Sci. 62: 2840-2852.
8. Kostadinov, R., et al. 2006. GRSDB: a database of quadruplex forming G-rich sequences in alternatively processed mammalian pre-mRNA sequences. Nucleic Acids Res. 34: D119-D124.
9. Garrison, W.D., et al. 2006. Hepatocyte nuclear factor 4α is essential for embryonic development of the mouse colon. Gastroenterology 130: 1207-1220.

CHROMOSOMAL LOCATION

Genetic locus: Cdhr5 (mouse) mapping to 7 F5.

SOURCE

μ-protocadherin (G-10) is a mouse monoclonal antibody raised against amino acids 209-511 mapping within an extracellular domain of μ-protocadherin 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.

APPLICATIONS

μ-protocadherin (G-10) is recommended for detection of μ-protocadherin of mouse 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for μ-protocadherin siRNA (m): sc-152486, μ-protocadherin shRNA Plasmid (m): sc-152486-SH and μ-protocadherin shRNA (m) Lentiviral Particles: sc-152486-V.

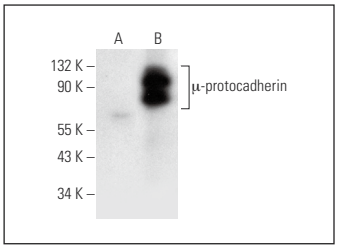
Molecular Weight of μ-protocadherin four isoforms: 110-220 kDa.

Positive Controls: μ-protocadherin (m): 293T Lysate: sc-127848 or mouse small intestine extract: sc-364252.

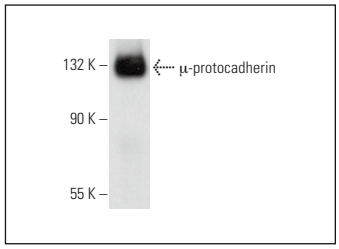
RECOMMENDED SUPPORT REAGENTS

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.

DATA



μ-protocadherin (G-10): sc-398841. Western blot analysis of μ-protocadherin expression in non-transfected: sc-117752 (**A**) and mouse μ-protocadherin transfected: sc-127848 (**B**) 293T whole cell lysates.



μ-protocadherin (G-10): sc-398841. Western blot analysis of μ-protocadherin expression in mouse small intestine tissue extract.

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.