

# α T-catenin (4A21): sc-69968

## BACKGROUND

The catenins ( $\alpha$ ,  $\beta$ ,  $\gamma$  and  $\delta$ ) are ubiquitously expressed, cytoplasmic proteins that associate with E-cadherin at cellular junctions. Catenin/cadherin complexes play an important role in mediating cellular adhesion.  $\alpha$  T-catenin, also referred to as VR22, is a 895 amino acid protein that is most abundantly expressed in cardiomyocytes and in the peritubular myoid cells of the testis.  $\alpha$  T-catenin binds to  $\alpha$  E-catenin as well as to  $\beta$ -catenin, and it functions to inhibit Wnt signaling. CTNNA3, the gene that encodes for  $\alpha$  T-catenin, is located on chromosome 10, and mutations in this gene show a strong correlation to late-onset Alzheimer's disease (LOAD) as well as to dilated cardiomyopathy.

## REFERENCES

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2. Janssens, B., et al. 2001.  $\alpha$  T-catenin: A novel tissue-specific  $\beta$ -catenin-binding protein mediating strong cell-cell adhesion. *J. Cell Sci.* 114: 3177-3188.
3. Ertekin-Taner, N., et al. 2003. Fine mapping of the  $\alpha$  T-catenin gene to a quantitative trait locus on chromosome 10 in late-onset Alzheimer's disease pedigrees. *Hum. Mol. Genet.* 12: 3133-3143.
4. Janssens, B., et al. 2003. Assessment of the CTNNA3 gene encoding human  $\alpha$  T-catenin regarding its involvement in dilated cardiomyopathy. *Hum. Genet.* 112: 227-236.
5. Blomqvist, M.E., et al. 2004. Genetic variation in CTNNA3 encoding  $\alpha$  3-catenin and Alzheimer's disease. *Neurosci. Lett.* 358: 220-222.
6. Busby, V., et al. 2004.  $\alpha$  T-catenin is expressed in human brain and interacts with the Wnt signaling pathway but is not responsible for linkage to chromosome 10 in Alzheimer's disease. *Neuromolecular Med.* 5: 133-146.
7. Martin, E.R., et al. 2005. Interaction between the  $\alpha$  T-catenin gene (VR22) and APOE in Alzheimer's disease. *J. Med. Genet.* 42: 787-792.
8. Kuwano, R., et al. 2006. Dynamins-binding protein gene on chromosome 10q is associated with late-onset Alzheimer's disease. *Hum. Mol. Genet.* 15: 2170-2182.
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## CHROMOSOMAL LOCATION

Genetic locus: CTNNA3 (human) mapping to 10q21.3; Ctnna3 (mouse) mapping to 10 B4.

## SOURCE

$\alpha$  T-catenin (4A21) is a mouse monoclonal antibody raised against amino acids 164-177 of  $\alpha$  T-catenin of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

$\alpha$  T-catenin (4A21) is recommended for detection of  $\alpha$  T-catenin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500); non cross-reactive with  $\alpha$  E-catenin or  $\alpha$  N-catenin.

Suitable for use as control antibody for  $\alpha$  T-catenin siRNA (h): sc-61904,  $\alpha$  T-catenin siRNA (m): sc-61905,  $\alpha$  T-catenin shRNA Plasmid (h): sc-61904-SH,  $\alpha$  T-catenin shRNA Plasmid (m): sc-61905-SH,  $\alpha$  T-catenin shRNA (h) Lentiviral Particles: sc-61904-V and  $\alpha$  T-catenin shRNA (m) Lentiviral Particles: sc-61905-V.

Molecular Weight of  $\alpha$  T-catenin: 100 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227 or HCT-8 cell lysate: sc-24675.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:  
 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## 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](http://www.scbt.com) for detailed protocols and support products.