SANTA CRUZ BIOTECHNOLOGY, INC.

γ-catenin (A-6): sc-514115

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The catenins, α, β and γ, are proteins which bind to the highly conserved, intracellular cytoplasmic tail of E-cadherin. Together, the catenin/cadherin complexes play an important role mediating cellular adhesion. α-catenin was initially described as an E-cadherin associated protein, and since has been shown to associate with other members of the cadherin family, such as N-cadherin and P-cadherin. β-catenin associates with the cytoplasmic portion of E-cadherin, which is necessary for the function of E-cadherin as an adhesion molecule. β-catenin has also been found in complexes with the tumor suppressor protein APC. γ-catenin, also known as plakoglobin, binds with α-catenin and N-cadherin. It has been shown that the transmembrane phosphatase PTPμ associates with catenin/cadherin complexes and may regulate complex signaling.

REFERENCES

1. Knudsen, K.A., et al. 1995. Interaction of α-actinin with the cadherin/catenin cell-cell adhesion complex via α-catenin. J. Cell Biol. 130: 67-77.
2. Brady-Kalnay, S.M., et al. 1995. Receptor protein tyrosine phosphatase PTPm associates with cadherins and catenins *in vivo*. J. Cell Biol. 130: 977-986.

CHROMOSOMAL LOCATION

Genetic locus: JUP (human) mapping to 17q21.2; Jup (mouse) mapping to 11 D.

SOURCE

γ-catenin (A-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 689-713 near the C-terminus of γ-catenin of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

γ-catenin (A-6) is available conjugated to agarose (sc-514115 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-514115 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514115 PE), fluorescein (sc-514115 FITC), Alexa Fluor® 488 (sc-514115 AF488), Alexa Fluor® 546 (sc-514115 AF546), Alexa Fluor® 594 (sc-514115 AF594) or Alexa Fluor® 647 (sc-514115 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514115 AF680) or Alexa Fluor® 790 (sc-514115 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-514115 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

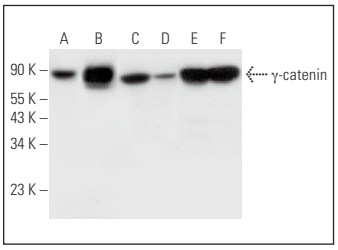
APPLICATIONS

γ-catenin (A-6) is recommended for detection of γ-catenin 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).

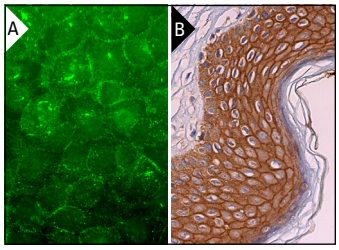
Suitable for use as control antibody for γ-catenin siRNA (h): sc-29324, γ-catenin siRNA (m): sc-29932, γ-catenin shRNA Plasmid (h): sc-29324-SH, γ-catenin shRNA Plasmid (m): sc-29932-SH, γ-catenin shRNA (h) Lentiviral Particles: sc-29324-V and γ-catenin shRNA (m) Lentiviral Particles: sc-29932-V.

Molecular Weight of γ-catenin: 80-87 kDa.

DATA



γ-catenin (A-6): sc-514115. Western blot analysis of γ-catenin expression in HeLa (**A**), A-431 (**B**), HT-1080 (**C**), H4 (**D**), T-47D (**E**) and MCF7 (**F**) whole cell lysates.



γ-catenin (A-6): sc-514115. Immunofluorescence staining of formalin-fixed HeLa cells showing membrane localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human vulva/anal skin tissue showing membrane and cytoplasmic staining of squamous epithelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Shen, M., et al. 2018. Cell-specific functions of ADAM17 regulate the progression of thoracic aortic aneurysm. Circ. Res. 123: 372-388.
2. Rogerson, C., et al. 2021. Akt1-associated actomyosin remodelling is required for nuclear lamina dispersal and nuclear shrinkage in epidermal terminal differentiation. Cell Death Differ. 28: 1849-1864.
3. Yin, L., et al. 2022. KRT13 promotes stemness and drives metastasis in breast cancer through a plakoglobin/c-Myc signaling pathway. Breast Cancer Res. 24: 7.
4. García-García, T., et al. 2022. Impairment of antiviral immune response and disruption of cellular functions by SARS-CoV-2 ORF7a and ORF7b. iScience 25: 105444.
5. Zaver, S.A., et al. 2023. Targeting SERCA2 in organotypic epidermis reveals MEK inhibition as a therapeutic strategy for Darier disease. JCI Insight 8: e170739.
6. Baron, M., et al. 2024. Desmosome mutations impact the tumor microenvironment to promote melanoma proliferation. bioRxiv 2023.09.19.558457.

RESEARCH USE

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