SANTA CRUZ BIOTECHNOLOGY, INC.

α-actinin (H-2): sc-17829

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The spectrin gene family encodes a diverse group of cytoskeletal proteins that include spectrins, dystrophins and α-actinins. There are four tissue-specific α-actinins, namely α-actinin-1, α-actinin-2, α-actinin-3 and α-actinin-4, which are localized to muscle and non-muscle cells, including skeletal, cardiac and smooth muscle cells, as well as within the cytoskeleton. Each α-actinin protein contains one Actin-binding domain, two calponin-homology domains, two EF-hand domains and four spectrin repeats, through which they function as bundling proteins that can cross-link F-Actin, thus anchoring Actin to a variety of intracellular structures. Defects in the gene encoding α-actinin-4 are the cause of focal segmental glomerulosclerosis 1 (FSGS1), a common renal lesion characterized by decreasing kidney function and, ultimately, renal failure.

REFERENCES

1. Youssoufian, H., et al. 1990. Cloning and chromosomal localization of the human cytoskeletal α-actinin gene reveals linkage to the β-spectrin gene. Am. J. Hum. Genet. 47: 62-71.
2. Nishiyama, M., et al. 1990. Expression of human α-actinin in human hepatocellular carcinoma. Cancer Res. 50: 6291-6294.

SOURCE

α-actinin (H-2) is a mouse monoclonal antibody raised against amino acids 593-892 mapping at the C-terminus of α-actinin-1 of human 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.

α-actinin (H-2) is available conjugated to agarose (sc-17829 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-17829 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-17829 PE), fluorescein (sc-17829 FITC), Alexa Fluor® 488 (sc-17829 AF488), Alexa Fluor® 546 (sc-17829 AF546), Alexa Fluor® 594 (sc-17829 AF594) or Alexa Fluor® 647 (sc-17829 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-17829 AF680) or Alexa Fluor® 790 (sc-17829 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

α-actinin (H-2) is recommended for detection of α-actinin isoforms of mouse, rat and human origin by Western Blotting (starting dilution 1:500, dilution range 1:500-1:5,000), 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).

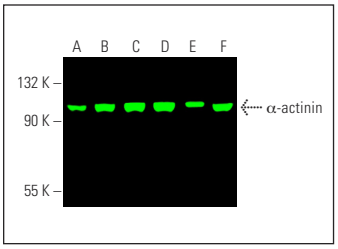
Molecular Weight of α-actinin: 100 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, HeLa whole cell lysate: sc-2200 or K-562 whole cell lysate: sc-2203.

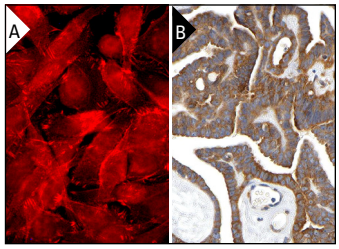
STORAGE

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

DATA



α-actinin (H-2): sc-17829. Near-Infrared western blot analysis of α-actinin expression in HeLa (**A**), Jurkat (**B**), HeLa (**C**), RT-4 (**D**), SJRH30 (**E**) and K-562 (**F**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgG_1 BP-CFL 680: sc-533665.



α-actinin (H-2) Alexa Fluor® 594: sc-17829 AF594. Direct immunofluorescence staining of formalin-fixed SW480 cells showing membrane and focal adhesions localization. Blocked with UltraCruz® Blocking Reagent: sc-516214 (**A**). α-actinin (H-2): sc-17829. Immunoperoxidase staining of formalin fixed, paraffin-embedded human ovarian cancer showing cytoplasmic staining of tumor cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (**B**).

SELECT PRODUCT CITATIONS

1. Lan, S., et al. 2003. Direct interaction between α-actinin and hepatitis C virus NS5B. FEBS Lett. 554: 289-294.
2. Matte, I., et al. 2015. Ovarian cancer ascites enhance the migration of patient-derived peritoneal mesothelial cells via cMet pathway through HGF-dependent and -independent mechanisms. Int. J. Cancer 137: 289-298.
3. Black, J.C., et al. 2016. Regulation of transient site-specific copy gain by microRNA. J. Biol. Chem. 291: 4862-4871.
4. Bernadzki, K.M., et al. 2017. Liprin-α-1 is a novel component of the murine neuromuscular junction and is involved in the organization of the postsynaptic machinery. Sci. Rep. 7: 9116.
5. Álvarez-Cilleros, D., et al. 2018. Colonic metabolites from flavanols stimulate nitric oxide production in human endothelial cells and protect against oxidative stress-induced toxicity and endothelial dysfunction. Food Chem. Toxicol. 115: 88-97.
6. Basukala, O., et al. 2019. The HPV-18 E7 CKII phospho acceptor site is required for maintaining the transformed phenotype of cervical tumour-derived cells. PLoS Pathog. 15: e1007769.
7. Li, Y.F., et al. 2020. CKAP2L knockdown exerts antitumor effects by increasing miR-4496 in glioblastoma cell lines. Int. J. Mol. Sci. 22: 197.
8. Mournetas, V., et al. 2021. Myogenesis modelled by human pluripotent stem cells: a multi-omic study of Duchenne myopathy early onset. J. Cachexia Sarcopenia Muscle 12: 209-232.

RESEARCH USE

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