SANTA CRUZ BIOTECHNOLOGY, INC.

Talin (2Q1089): sc-73110

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Focal adhesions were identified as areas within the plasma membrane of tissue culture cells that adhere tightly to the underlying substrate. *In vivo,* these regions are involved in the adhesion of cells to the extracellular matrix. Paxillin and vinculin are cytoskeletal, focal adhesion proteins that are components of a protein complex that links the actin network to the plasma membrane. Vinculin binding sites have been identified on other cytoskeletal proteins, including Talin-1 and α-actinin. In addition, vinculin, Talin-1, Talin-2 and α-actinin each contain actin binding sites. Expression of vinculin, Talin-1 and Talin-2 have been shown to be affected by the level of actin expression. α-actinin has been shown to link actin to integrins in the plasma membrane through interactions with the vinculin and Talin complex or by a direct interaction with integrin. Talin-2 is similar to Talin-1 but shows distinct patterns of expression and cannot compensate for the loss of Talin-1.

REFERENCES

1. Burridge, K., et al. 1988. Focal adhesions: transmembrane junctions between the extracellular matrix and the cytoskeleton. Annu. Rev. Cell Biol. 4: 487-525.
2. Gilmore, A.P., et al. 1992. Further characterization of the talin-binding site in the cytoskeletal protein vinculin. J. Cell Sci. 103: 719-731.
3. Wood, C.K., et al. 1994. Characterisation of the paxillin-binding site and the C-terminal focal adhesion targeting sequence in vinculin. J. Cell Sci. 107: 709-717.
4. Gluck, U., et al. 1994. Modulation of α-actinin levels affects cell motility and confers tumorigenicity on 3T3 cells. J. Cell Sci. 107: 1773-1782.
5. Schevzov, G., et al. 1995. Impact of actin gene expression on vinculin, talin, cell spreading, and motility. DNA Cell Biol. 14: 689-700.
6. Hemmings, L., et al. 1996. Talin contains three actin-binding sites each of which is adjacent to a vinculin-binding site. J. Cell Sci. 109: 2715-2726.
7. Gilmore, A.P., et al. 1996. Regulation of vinculin binding to talin and actin by phosphatidyl-inositol-4-5-bisphosphate. Nature 381: 531-535.
8. Franco, S.J., et al. 2006. The conserved C-terminal I/LWEQ module targets Talin1 to focal adhesions. Cell Motil. Cytoskeleton 63: 563-581.

CHROMOSOMAL LOCATION

Genetic locus: TLN2 (human) mapping to 15q22.2; Tln2 (mouse) mapping to 9 C.

SOURCE

Talin (2Q1089) is a mouse monoclonal antibody raised against Talin isolated from platelets 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.

APPLICATIONS

Talin (2Q1089) is recommended for detection of Talin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Talin (2Q1089) is also recommended for detection of Talin in additional species, including rabbit.

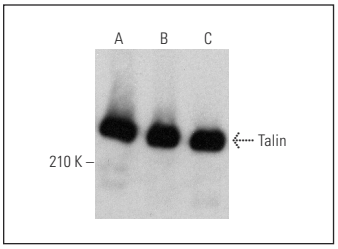
Molecular Weight of Talin: 230 kDa.

Positive Controls: CCRF-CEM cell lysate: sc-2225, K-562 whole cell lysate: sc-2203 or C32 whole cell lysate: sc-2205.

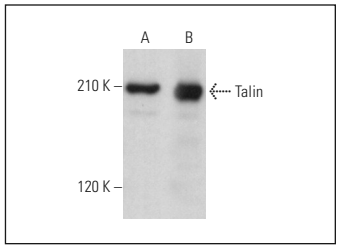
RECOMMENDED SUPPORT REAGENTS

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



Talin (2Q1089): sc-73110. Western blot analysis of Talin expression in CCRF-CEM (**A**), K-562 (**B**) and C32 (**C**) whole cell lysates.



Talin (2Q1089): sc-73110. Western blot analysis of Talin expression in HL-60 (**A**) and Hep G2 (**B**) whole cell lysates.

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.

CONJUGATES

See **Talin (C-9): sc-365875** for Talin antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647.