SANTA CRUZ BIOTECHNOLOGY, INC.

p-Moesin (Thr 558): sc-12895

SANTA CRUZ BIOTECHNOLOGY
The Power to Question

BACKGROUND

ERM (Ezrin, Radixin, and Moesin) proteins function as membrane-cytoskeletal linkers and are known to be localized at filopodia and microvilli-like structures. ROCK II phosphorylates Moesin at Threonine 558 downstream of Rho. This phosphorylation is crucial to the formation of these microvilli-like structures. Phosphorylation of Threonine 558 promotes F-Actin binding by disrupting of interdomain interactions between amino and carboxy domains and exposing the high affinity F-Actin binding site in the carboxy-terminal domain. Oscillation between activated and resting states could provide the structural basis for transient interactions between Moesin and the Actin cytoskeleton in protruding and retracting microextensions.

REFERENCES

1. Oshiro, N., et al. 1998. Phosphorylation of moesin by rho-associated kinase (Rho-kinase) plays a crucial role in the formation of microvilli-like structures. J. Biol. Chem. 273: 34663-34666.
2. Hishiya, A., et al. 1999. Protein phosphatase 2C inactivates F-actin binding of human platelet moesin. J. Biol. Chem. 274: 26705-26712.

SOURCE

p-Moesin (Thr 558) is available as either a goat (sc-12895) or rabbit (sc-12895-R) polyclonal antibody raised against a short amino acid sequence containing phosphorylated Tyr 558 of Moesin of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-12895 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

p-Moesin (Thr 558) is recommended for detection of Moesin phosphorylated at Thr 558, Ezrin phosphorylated at Thr 567 and Radixin phosphorylated at Thr 564 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)], 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).

p-Moesin (Thr 558) is also recommended for detection of correspondingly phosphorylated at Thr 558, Ezrin phosphorylated at Thr 567 and Radixin phosphorylated at Thr-564 in additional species, including equine, canine, bovine, porcine and avian.

Molecular Weight of p-Moesin: 77 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201 or F9 cell lysate: sc-2245.

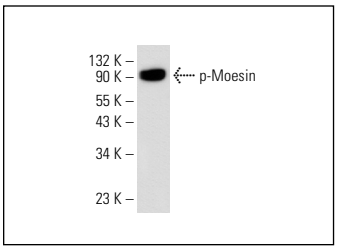
STORAGE

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

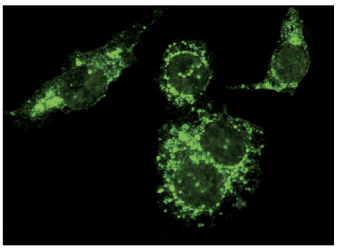
RESEARCH USE

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

DATA



p-Moesin (Thr 558)-R: sc-12895-R. Western blot analysis of Moesin phosphorylation in F9 whole cell lysate.



p-Moesin (Thr 558)-R: sc-12895-R. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoskeletal localization

SELECT PRODUCT CITATIONS

1. Nijhara, R., et al. 2004. Rac 1 mediates collapse of microvilli on chemokine-activated T lymphocytes. J. Immunol. 173: 4985-4993.
2. Fu, X.D., et al. 2008. Extra-nuclear signaling of progesterone receptor to breast cancer cell movement and invasion through the actin cytoskeleton. PLoS ONE 3: e2790.
3. Sawada, N., et al. 2009. Cyclic GMP kinase and RhoA Ser188 phosphorylation integrate pro- and antifibrotic signals in blood vessels. Mol. Cell. Biol. 29: 6018-6032.
4. Sanchez, A.M., et al. 2009. Rapid signaling of estrogen to WAVE1 and moesin controls neuronal spine formation via the actin cytoskeleton. Mol. Endocrinol. 23: 1193-1202.
5. Barrero-Villar, M., et al. 2009. Moesin is required for HIV-1-induced CD4-CXCR4 interaction, F-actin redistribution, membrane fusion and viral infection in lymphocytes. J. Cell Sci. 122: 103-113.
6. Guo, X., et al. 2009. ERM protein moesin is phosphorylated by advanced glycation end products and modulates endothelial permeability. Am. J. Physiol. Heart Circ. Physiol. 297: H238-H246.
7. Flamini, M.I., et al. 2009. Effects of raloxifene on breast cancer cell migration and invasion through the actin cytoskeleton. J. Cell. Mol. Med. 13: 2396-2407.
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