SANTA CRUZ BIOTECHNOLOGY, INC.

MYPT1 (h2): 293T Lysate: sc-114575

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Myosin phosphatase target subunit 1 (MYPT1), also called Myosin-binding subunit of Myosin phosphatase, is one of the subunits and an integral component of the Myosin phosphatase. Myosin phosphatase regulates the interaction of Actin and Myosin downstream of the guanosine triphosphatase Rho, which inhibits Myosin phosphatase through the action of Rho-kinase. MYPT1 promotor contains one Sp1 transcription factor binding site, suggesting that MYPT1 is a housekeeping gene. Myotonic dystrophy protein kinase phosphorylates MYPT1 at Tyrosine 654 to regulate Myosin II phosphorylation. Inhibition of Myosin light chain phosphatase results in Ca^{2+} sensitization of smooth muscle contraction. This inhibition is modulated through phosphorylation of MYPT1 by a ZIP-like kinase, which associates with MYPTI and phosphorylates the inhibitory site in smooth muscle. The phosphorylation of MYPT1 by protein kinase C results in altered dephosphoryation of Myosin by attenuating the binding of protein phosphatase 1 catalytic subunit (PP1c) and the phosphorylated Myosin light chain to MYPT1. PP1c interacts with at least four binding sties on the amino-terminus of MYPT1. MYPT2, a novel isoform of MYPT1, also interacts with PPlc. MYPT1 is localized on stress fibers; it is distributed close to the cell membrane and at cell-cell contacts to regulate Myosin phosphatase activity.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: PPP1R12A (human) mapping to 12q21.2.

PRODUCT

MYPT1 (h2): 293T Lysate represents a lysate of human MYPT1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

MYPT1 (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive MYPT1 antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. 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 for detailed protocols and support products.