BACKGROUND

All eukaryotic cells express Actin, which often constitutes as much as 50% of total cellular protein. Actin filaments can form both stable and labile structures and are crucial components of microvilli and the contractile apparatus of muscle cells. While lower eukaryotes, such as yeast, have only one Actin gene, higher eukaryotes have several isoforms encoded by a family of genes. At least six types of Actin are present in mammalian tissues and fall into three classes. α-Actin expression is limited to various types of muscle, whereas β- and γ-Actin are the principle constituents of filaments in other tissues. Members of the small GTPase family regulate the organization of the Actin cytoskeleton. Rho controls the assembly of Actin stress fibers and focal adhesion, Rac regulates Actin filament accumulation at the plasma membrane and Cdc42 stimulates formation of filopodia.

REFERENCES


CHROMOSOMAL LOCATION

Genetic locus: ACTA1 (human) mapping to 1q42.13; Acta1 (mouse) mapping to 8E2.

SOURCE

Actin (MM2/193) is a mouse monoclonal antibody raised against platelet membranes of human origin.

PRODUCT

Each vial contains 200 µg IgM in 1.0 mL PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Actin (MM2/193) is recommended for detection of Actin in platelet lysates 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Actin siRNA (h): sc-29191, Actin siRNA (m): sc-29192, Actin shRNA Plasmid (h): sc-29191-Sh, Actin shRNA Plasmid (m): sc-29192-Sh, Actin shRNA (h) Lentiviral Particles: sc-29191-V and Actin shRNA (m) Lentiviral Particles: sc-29192-V.

Molecular Weight of Actin: 43 kDa.

Positive Controls: C32 whole cell lysate: sc-2205, HeLa whole cell lysate: sc-2200 or IMR-32 cell lysate: sc-2409.

RESEARCH USE

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

STORAGE

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

DATA

Actin (MM2/193): sc-81760. Western blot analysis of Actin expression in human platelet extract (A) and U-937 (B), C32 (C), HeLa (D), NIH/3T3 (E) and HL-60 (F) whole cell lysates.

Actin (MM2/193): sc-81760. Immunoperoxidase staining of formal fixed, paraffin-embedded human breast tissue showing cytoplasmic staining of glandular cells and myoepithelial cells.

SELECT PRODUCT CITATIONS


See β-Actin (C4): sc-47778 for β-Actin antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647.