**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 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. Cdc42 stimulates formation of filopodia.

**REFERENCES**


**CHROMOSOMAL LOCATION**

Genetic locus: ACTA1 (human) mapping to 1q42.13, ACTC1 (human) mapping to 15q14; Acta1 (mouse) mapping to 8 E2, Actc1 (mouse) mapping to 2 E4.

**SOURCE**

α-Actin (Alpha Sr-1) is a mouse monoclonal antibody raised against Actin of rabbit origin.

**PRODUCT**

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

**APPLICATIONS**

α-Actin (Alpha Sr-1) is recommended for detection of α-skeletal and α-cardiac Actin of mouse, rat, human and Xenopus laevis origin by Western Blotting (starting dilution 1:200, dilution range 1:10-1:200), 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500); not recommended for detection of α-Actin from smooth muscle tissue.

α-Actin (Alpha Sr-1) is also recommended for detection of α-skeletal and α-cardiac Actin in additional species, including bovine and rabbit.

Molecular Weight of α-Actin: 43 kDa.

Positive Controls: A-10 cell lysate: sc-3806, rat skeletal muscle extract: sc-364810 or mouse skeletal muscle extract: sc-364250.

**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**

**SELECT PRODUCT CITATIONS**


**CONJUGATES**

See α-Actin (1A4): sc-32251 for α-Actin antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.