**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-Actin 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. Cdc42 stimulates formation of filopodia.

**CHROMOSOMAL LOCATION**

Genetic locus: ACTB (human) mapping to 7p22.1; Actb (mouse) mapping to 5 G2.

**SOURCE**

β-Actin (4E8H3) is a mouse monoclonal antibody raised against a peptide mapping at the N-terminus of β-Actin 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.

**APPLICATIONS**

β-Actin (4E8H3) is recommended for detection of β-Actin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).


Molecular Weight of β-Actin: 43 kDa.

Molecular Weight of β-Actin C-terminal region: 15 kDa.

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

**RECOMMENDED SECONDARY REAGENTS**

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2484.

**SELECT PRODUCT CITATIONS**


**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.

**PROTOKOLS**

See our web site at www.scbt.com or our catalog for detailed protocols and support products.