SANTA CRUZ BIOTECHNOLOGY, INC.

MYLK (L-18): sc-9452

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The Ca^{2+}/calmodulin-dependent protein kinases (CaM kinases) are a structurally related subfamily of serine/threonine kinases that includes CaMKI, CaMKII, CaMKIV and myosin light chain kinases (MYLK, also designated MLCK). The MYLK kinases phosphorylate myosin regulatory light chains to catalyze myosin interaction with actin filaments resulting in contractile activity. Non-muscle, smooth muscle and skeletal/cardiac muscle MYLK isoforms exist. The MYLK gene (also designated MYLK1) encodes both smooth muscle and non-muscle isoforms as well as telokin, a small C-terminal isoform expressed only in smooth muscle with the capacity to stabilize unphosphorylated myosin filaments. Multiple transcript variants are described for the MYLK gene. Smooth-muscle and non-muscle MYLK isoforms are expressed in a wide variety of adult and fetal tissues. The skeletal/cardiac muscle isoforms of MYLK are encoded by a separate gene, MYLK2 (also designated skMLCK). MYLK appears to be a target for PAKs (p21-activated kinases). PAK1 interaction with MYLK results in a decrease in MYLK activity and myosin light chain phosphorylation.

CHROMOSOMAL LOCATION

Genetic locus: MYLK (human) mapping to 3q21.1; Mylk (mouse) mapping to 16 B3.

SOURCE

MYLK (L-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of MYLK 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-9452 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MYLK (L-18) is recommended for detection of all MYLK isoforms (including telokin, non-muscle, and smooth-muscle isoforms) 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); non cross-reactive with MYLK2.

MYLK (L-18) is also recommended for detection of all MYLK isoforms (including telokin, non-muscle and smooth-muscle isoforms) in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for MYLK siRNA (h): sc-35941, MYLK siRNA (m): sc-35942, MYLK shRNA Plasmid (h): sc-35941-SH, MYLK shRNA Plasmid (m): sc-35942-SH, MYLK shRNA (h) Lentiviral Particles: sc-35941-V and MYLK shRNA (m) Lentiviral Particles: sc-35942-V.

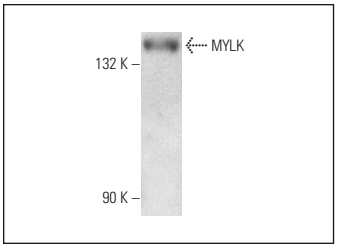
Molecular Weight of MYLK isoforms: 210/135 kDa.

Positive Controls: A-10 cell lysate: sc-3806 or BC_3H1 cell lysate: sc-2299.

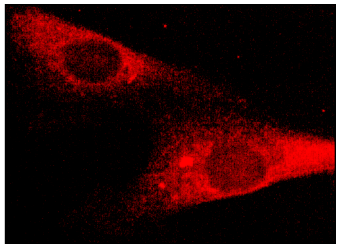
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



MLCK (L-18): sc-9452. Western blot analysis of MLCK expression in A-10 whole cell lysate.



MYLK (L-18): sc-9452. Immunofluorescence staining of methanol-fixed A-10 cells showing cytoplasmic staining.

SELECT PRODUCT CITATIONS

1. Mahajan, S.D., et al. 2008. Tight junction regulation by morphine and HIV-1 tat modulates blood-brain barrier permeability. J. Clin. Immunol. 28: 528-541.
2. Myklebust, L.M., et al. 2015. Biochemical and cellular analysis of Ogden syndrome reveals downstream Nt-acetylation defects. Hum. Mol. Genet. 24: 1956-1976.

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.

PROTOCOLS

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