SANTA CRUZ BIOTECHNOLOGY, INC.

p-Caldesmon (Ser 789): sc-12931

BACKGROUND

S3-v-Erb B is a retroviral oncogene that encodes a ligand-independent, transforming mutant of the epidermal growth factor receptor. Expression of S3-v-Erb B in primary fibroblasts results in the tyrosine phosphorylation of Caldesmon. Caldesmon is an Actin- and calmodulin-binding protein; the phosphorylated form of Caldesmon is associated with a signaling Shc/GRB2 complex. Tyrosine 27, which is located within the Myosin binding domain of Caldesmon, is one of the major sites of phosphorylation. Tyrosine phosphorylation of Caldesmon enhances its binding to the Shc/GRB2 complex. Acetylcholine increases phosphorylation of Caldesmon at Serine 789, and extracellular signal-regulated kinases (ERKs) phosphorylate Caldesmon at Serine 789 during smooth muscle stimulation, indicating that Caldesmon is a putative downstream target of MAP kinase pathways.

CHROMOSOMAL LOCATION

Genetic locus: CALD1 (human) mapping to 7q33; Cald1 (mouse) mapping to 6 B1.

SOURCE

p-Caldesmon (Ser 789) is available as either goat (sc-12931) or rabbit (sc-12931-R) affinity purified polyclonal antibody raised against a short amino acid sequence containing Ser 789 phosphorylated H-Caldesmon 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-12931-R P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

p-Caldesmon (Ser 789) is recommended for detection of Ser 789 phosphorylated H-Caldesmon and correspondingly phosphorylated L-Caldesmon I and II 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).

p-Caldesmon (Ser 789) is also recommended for detection of correspondingly phosphorylated H-Caldesmon, L-Caldesmon I and II in additional species, including equine, canine, bovine and porcine.

Molecular Weight of p-H-Caldesmon: 90-150 kDa.

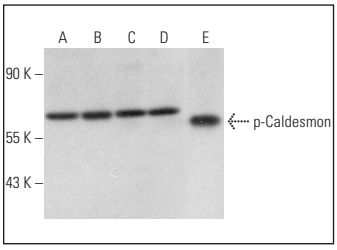
Molecular Weight of p-L-Caldesmon: 60-80 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, HeLa whole cell lysate: sc-2200 or HeLa + Calyculin A cell lysate: sc-2271.

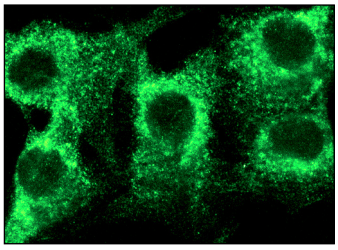
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: for goat primary antibody (sc-12931): 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), for rabbit primary antibody (sc-12931-R): use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent), Western Blotting Luminol Reagent: sc-2048 and Lambda Phosphatase: sc-200312A. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: for goat primary antibody (sc-12931): 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, for rabbit primary antibody (sc-12931-R): use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



p-Caldesmon (Ser 789): sc-12931. Western blot analysis of Caldesmon phosphorylation in Jurkat (**A**), anisomycin treated Jurkat (**B**), HeLa (**C**), EGF treated HeLa (**D**) and Calyculin A treated HeLa (**E**) whole cell lysates.



p-Caldesmon (Ser 789)-R: sc-12931-R. Immunofluorescence staining of methanol-fixed BC_3H1 cells showing cytoskeletal localization.

SELECT PRODUCT CITATIONS

1. Daily, A., et al. 2010. Abrogation of microcystin cytotoxicity by MAP kinase inhibitors and N-acetyl cysteine is confounded by OATPIB1 uptake activity inhibition. Toxicon 55: 827-837.

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.