

CapG (D-5): sc-365472

BACKGROUND

Caldesmon, Filamin 1, Nebulin, Plastin, ADF, Gelsolin, CapG, Dematin and Cofilin are differentially expressed actin-binding proteins. Both muscular (CDh) and non-muscular (CD1) forms of Caldesmon bind to Actin as well as to Calmodulin and Myosin. CDh is expressed predominantly on thin filaments in smooth muscle, whereas CD1 is widely expressed in non-muscle tissues and cells. CapG, also designated Actin-regulatory protein and macrophage-capping protein, is a macrophage-specific protein that reversibly blocks the barbed ends of Actin filaments, but does not sever preformed ones. The interactions of CapG with Actin may be important in the regulation of nuclear and cytoplasmic structures. CapG is a calcium-sensitive DNA-binding protein that plays a role in macrophage function. It is expressed in macrophages and macrophage-like cells and can localize both to the nucleus and the cytoplasm.

REFERENCES

1. Dabiri, G.A., et al. 1992. Molecular cloning of human macrophage-capping protein cDNA. A unique member of the Gelsolin/Villin family expressed primarily in macrophages. *J. Biol. Chem.* 267: 16545-16552.
2. Mishra, V.S., et al. 1994. The human actin-regulatory protein CapG: gene structure and chromosome location. *Genomics* 23: 560-565.
3. Southwick, F.S., et al. 1995. Gain-of-function mutations conferring Actin-severing activity to human macrophage CapG. *J. Biol. Chem.* 270: 45-48.
4. Pellieux, C., et al. 2003. CapG, a Gelsolin family protein modulating protective effects of unidirectional shear stress. *J. Biol. Chem.* 278: 29136-29144.
5. De Corte, V., et al. 2004. Increased importin- β -dependent nuclear import of the Actin modulating protein CapG promotes cell invasion. *J. Cell Sci.* 117: 5283-5292.
6. Watari, A., et al. 2006. Suppression of tumorigenicity, but not anchorage independence, of human cancer cells by new candidate tumor suppressor gene CapG. *Oncogene* 25: 7373-7380.

CHROMOSOMAL LOCATION

Genetic locus: CAPG (human) mapping to 2p11.2; Capg (mouse) mapping to 6 C1.

SOURCE

CapG (D-5) is a mouse monoclonal antibody raised against amino acids 256-340 mapping at the C-terminus of CapG of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

CapG (D-5) is recommended for detection of CapG of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

Suitable for use as control antibody for CapG siRNA (h): sc-44920, CapG siRNA (m): sc-44921, CapG shRNA Plasmid (h): sc-44920-SH, CapG shRNA Plasmid (m): sc-44921-SH, CapG shRNA (h) Lentiviral Particles: sc-44920-V and CapG shRNA (m) Lentiviral Particles: sc-44921-V.

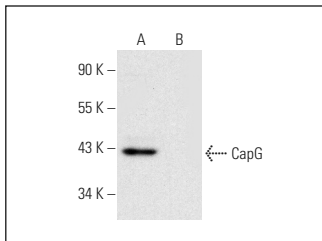
Molecular Weight of CapG: 39 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, HL-60 whole cell lysate: sc-2209 or THP-1 cell lysate: sc-2238.

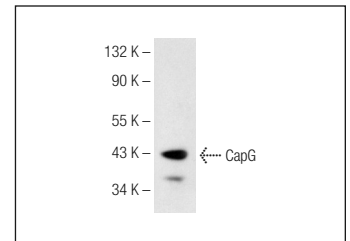
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



CapG (D-5): sc-365472. Western blot analysis of CapG expression in HeLa (A) and NIH/3T3 (B) whole cell lysates. Note lack of reactivity with mouse CapG in lane B.



CapG (D-5): sc-365472. Western blot analysis of CapG expression in HL-60 whole cell lysate.

RESEARCH USE

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

PROTOCOLS

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