**BACKGROUND**

Gem belongs to the Rad/Gem/Kir (RGK) subfamily of Ras-related GTPases, which lack typical C-terminal amino acid motifs for isoprenylation. Rad and Gem bind calmodulin in a Ca²⁺-dependent manner via this C-terminal extension, involving residues 278-297 in human Rad. High intracellular Gem levels, which interact with intact microtubules and microfilaments, promote profound changes in cell morphology. Ectopic Gem expression is sufficient to stimulate cell flattening and neurite extension in N1E-115 and SH-SY5Y neuroblastoma cells, suggesting a role for Gem in cytoskeletal rearrangement and/or morphological differentiation of neurons. Gem was also observed in developing trigeminal nerve ganglia in 12.5 day mouse embryos, demonstrating that Gem expression is a property of normal ganglionic development. The interaction of Gem with β-subunits regulates Ca²⁺ channel expression at the cell surface.

**REFERENCES**


**CHROMOSOMAL LOCATION**

Genetic locus: GEM (human) mapping to 8q22.1; Gem (mouse) mapping to 4 A1.

**SOURCE**

Gem (G-1) is a mouse monoclonal antibody raised against amino acids 1-85 mapping at the N-terminus of Gem of human origin.

**PRODUCT**

Each vial contains 200 µg IgG2a 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**

Gem (G-1) is recommended for detection of Gem of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 1:30-1:300).

Suitable for use as control antibody for Gem siRNA (h): sc-41719, Gem siRNA (m): sc-41720, Gem shRNA Plasmid (h): sc-41719-SH, Gem shRNA Plasmid (m): sc-41720-SH, Gem shRNA (h) Lentiviral Particles: sc-41719-V and Gem shRNA (m) Lentiviral Particles: sc-41720-V.

Molecular Weight of Gem: 35 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, A549 cell lysate: sc-2413 or U-251-MG whole cell lysate: sc-364176.

**RECOMMENDED SUPPORT REAGENTS**

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG HPV : sc-516102 or m-IgG BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:100-1:1000), 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 BP-FITC: sc-516140 or m-IgG 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**

**SELECT PRODUCT CITATIONS**


**PROTOCOLS**

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