

# Gem (N-20): sc-19753

## 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  $Ca^{2+}$ -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  $\beta$ -subunits regulates  $Ca^{2+}$  channel expression at the cell surface. The human Gem gene maps to chromosome 8q22.1.

## CHROMOSOMAL LOCATION

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

## SOURCE

Gem (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Gem of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-19753 P, (100  $\mu$ g 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

Gem (N-20) is recommended for detection of Gem of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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).

Gem (N-20) is also recommended for detection of Gem in additional species, including equine, canine, bovine and porcine.

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.

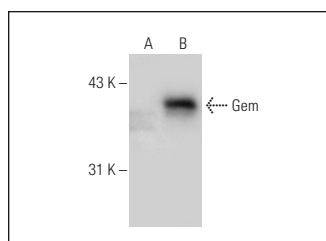
Molecular Weight of Gem: 35 kDa.

Positive Controls: Gem (h2): 293T Lysate: sc-170796 or Gem (m): 293T Lysate: sc-125377.

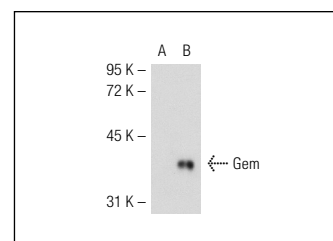
## RECOMMENDED SECONDARY REAGENTS

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



Gem (N-20): sc-19753. Western blot analysis of Gem expression in non-transfected: sc-117752 (A) and human Gem transfected: sc-170796 (B) 293T whole cell lysates.



Gem (N-20): sc-19753. Western blot analysis of Gem expression in non-transfected: sc-117752 (A) and mouse Gem transfected: sc-125377 (B) 293T whole cell lysates.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

**MONOS**  
Satisfaction  
Guaranteed

Try **Gem (A-3): sc-514497** or **Gem (G-1): sc-166891**, our highly recommended monoclonal alternatives to Gem (N-20).