

# GMPS (H-211): sc-292540

## BACKGROUND

Purines are critical for energy metabolism, cell signaling and cell reproduction and also function as precursors for coenzymes, energy transfer molecules, regulatory factors and proteins involved in RNA and DNA synthesis. GMPS (guanine monophosphate synthetase), also known as GMP synthetase, is a 693 amino acid cytoplasmic protein that is involved in purine biosynthesis. Existing as a homodimer, GMPS catalyzes the last step in the GMP synthesis pathway, namely the ATP-dependent amination of XMP to GMP. GMPS contains one GMP-binding domain and one glutamine amidotransferase type-1 domain through which it conveys its catalytic activity. Chromosomal translocations involving the gene encoding GMPS are associated with acute myeloid leukemias, suggesting a possible role for GMPS in carcinogenesis.

## REFERENCES

1. Page, T., Bakay, B. and Nyhan, W.L. 1984. Human GMP synthetase. *Int. J. Biochem.* 16: 117-120.
2. Hirst, M., Haliday, E., Nakamura, J. and Lou, L. 1994. Human GMP synthetase. Protein purification, cloning, and functional expression of cDNA. *J. Biol. Chem.* 269: 23830-23837.

## CHROMOSOMAL LOCATION

Genetic locus: GMPS (human) mapping to 3q25.31; Gmps (mouse) mapping to 3 E1.

## SOURCE

GMPS (H-211) is a rabbit polyclonal antibody raised against amino acids 192-402 mapping within an internal region of GMPS 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.

## APPLICATIONS

GMPS (H-211) is recommended for detection of GMPS 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).

GMPS (H-211) is also recommended for detection of GMPS in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for GMPS siRNA (h): sc-78183, GMPS siRNA (m): sc-145652, GMPS shRNA Plasmid (h): sc-78183-SH, GMPS shRNA Plasmid (m): sc-145652-SH, GMPS shRNA (h) Lentiviral Particles: sc-78183-V and GMPS shRNA (m) Lentiviral Particles: sc-145652-V.

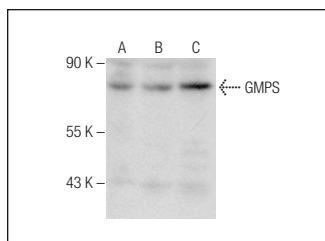
Molecular Weight of GMPS: 75 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209, Jurkat whole cell lysate: sc-2204 or MCF7 whole cell lysate: sc-2206.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western blotting: 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 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 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



GMPS (H-211): sc-292540. Western blot analysis of GMPS expression in HL-60 (A), Jurkat (B) and MCF7 (C) whole cell lysates.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.

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Try **GMPS (C-5): sc-376163** or **GMPS (D-5): sc-374225**, our highly recommended monoclonal alternatives to GMPS (H-211).