

# FPGS (H-105): sc-98479

## BACKGROUND

FPGS (folylpolyglutamate synthase) is a 587 amino acid protein that localizes to both the nucleus and the cytoplasm in an isoform-dependent manner and is involved in tetrahydrofolylpolyglutamate biosynthesis. Existing as a monomer, FPGS catalyzes the ATP-dependent conversion of folates to polyglutamate derivatives, thus allowing tissues to have a higher concentration of folate than the surrounding plasma. The gene encoding FPGS maps to human chromosome 9, which houses over 900 genes and comprises nearly 4% of the human genome. Hereditary hemorrhagic telangiectasia, which is characterized by harmful vascular defects, and Familial dysautonomia, are both associated with chromosome 9. Notably, chromosome 9 encompasses the largest interferon family gene cluster.

## REFERENCES

1. Jones, C., Kao, F.T. and Taylor, R.T. 1980. Chromosomal assignment of the gene for folylpolyglutamate synthetase to human chromosome 9. *Cytogenet. Cell Genet.* 28: 181-194.
2. Cichowicz, D.J. and Shane, B. 1987. Mammalian folylpoly- $\gamma$ -glutamate synthetase. 1. Purification and general properties of the hog liver enzyme. *Biochemistry* 26: 504-512.
3. Garrow, T.A., Admon, A. and Shane, B. 1992. Expression cloning of a human cDNA encoding folylpoly( $\gamma$ -glutamate) synthetase and determination of its primary structure. *Proc. Natl. Acad. Sci. USA* 89: 9151-9155.
4. Taylor, S.M., Freemantle, S.J. and Moran, R.G. 1995. Structural organization of the human folylpoly- $\gamma$ -glutamate synthetase gene: evidence for a single genomic locus. *Cancer Res.* 55: 6030-6034.
5. Freemantle, S.J. and Moran, R.G. 1997. Transcription of the human folylpoly- $\gamma$ -glutamate synthetase gene. *J. Biol. Chem.* 272: 25373-25379.

## CHROMOSOMAL LOCATION

Genetic locus: FPGS (human) mapping to 9q34.11; Fpgs (mouse) mapping to 2 B.

## SOURCE

FPGS (H-105) is a rabbit polyclonal antibody raised against amino acids 177-281 mapping within an internal region of FPGS 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.

## 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.

## APPLICATIONS

FPGS (H-105) is recommended for detection of FPGS 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).

FPGS (H-105) is also recommended for detection of FPGS in additional species, including equine, canine and bovine.

Suitable for use as control antibody for FPGS siRNA (h): sc-92545, FPGS siRNA (m): sc-145232, FPGS shRNA Plasmid (h): sc-92545-SH, FPGS shRNA Plasmid (m): sc-145232-SH, FPGS shRNA (h) Lentiviral Particles: sc-92545-V and FPGS shRNA (m) Lentiviral Particles: sc-145232-V.

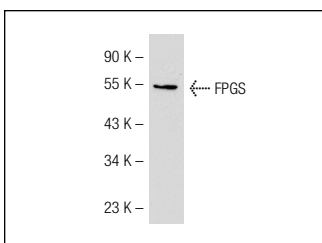
Molecular Weight of FPGS: 65 kDa.

Positive Controls: U-698-M whole cell lysates: sc-364799 or ECV304 cell lysate: sc-2269.

## 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



FPGS (H-105): sc-98479. Western blot analysis of FPGS expression in U-698-M whole cell lysate.

## SELECT PRODUCT CITATIONS

1. Leclerc, G.J., Sanderson, C., Hunger, S., Devidas, M. and Barredo, J.C. 2010. Folylpolyglutamate synthetase gene transcription is regulated by a multiprotein complex that binds the TEL-AML1 fusion in acute lymphoblastic leukemia. *Leuk. Res.* 34: 1601-1609.