

GFRP (D-11): sc-514098

BACKGROUND

GTP cyclohydrolase I feedback regulatory protein (GFRP) is encoded by the gene GCHFR. GFRP mediates feedback inhibition of GTP cyclohydrolase I activity by tetrahydrobiopterin. GFRP also acts as a mediator for the stimulatory effect of phenylalanine on enzyme activity. L-phenylalanine reverses this inhibition. Cross-linking experiments have shown that GFRP is usually expressed as a homodimer or pentamer.

REFERENCES

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- Yoneyama, T., Brewer, J.M. and Hatakeyama, K. 1997. GTP cyclohydrolase I feedback regulatory protein is a pentamer of identical subunits. Purification, cDNA cloning, and bacterial expression. *J. Biol. Chem.* 272: 9690-9696.
- Bader, G., Schiffmann, S., Herrmann, A., Fischer, M., Gütlich, M., Auerbach, G., Ploom, T., Bacher, A., Huber, R. and Lemm, T. 2001. Crystal structure of rat GTP cyclohydrolase I feedback regulatory protein, GFRP. *J. Mol. Biol.* 312: 1051-1057.
- Maita, N., Hatakeyama, K., Okada, K. and Hakoshima, T. 2004. Structural basis of biopterin-induced inhibition of GTP cyclohydrolase I by GFRP, its feedback regulatory protein. *J. Biol. Chem.* 279: 51534-51540.
- SWISS-PROT/TrEMBL (P30047). World Wide Web URL: <http://www.expasy.ch/sprot/sprot-top.html>

CHROMOSOMAL LOCATION

Genetic locus: GCHFR (human) mapping to 15q15.1; Gchfr (mouse) mapping to 2 E5.

SOURCE

GFRP (D-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 28-51 within an internal region of GFRP of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-514098 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

GFRP (D-11) is recommended for detection of GFRP 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 1:30-1:3000).

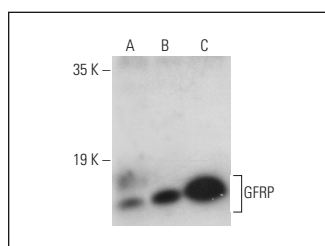
Suitable for use as control antibody for GFRP siRNA (h): sc-105393, GFRP siRNA (m): sc-145387, GFRP shRNA Plasmid (h): sc-105393-SH, GFRP shRNA Plasmid (m): sc-145387-SH, GFRP shRNA (h) Lentiviral Particles: sc-105393-V and GFRP shRNA (m) Lentiviral Particles: sc-145387-V.

Positive Controls: human liver extract: sc-363766, K-562 whole cell lysate: sc-2203 or Hep G2 cell lysate: sc-2227.

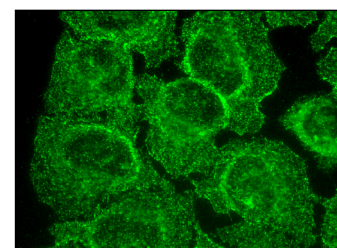
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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 L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ 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



GFRP (D-11): sc-514098. Western blot analysis of GFRP expression in K-562 (A) and Hep G2 (B) whole cell lysates and human liver tissue extract (C).



GFRP (D-11): sc-514098. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and membrane localization.

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.