

# GRP (G-20): sc-21613

## BACKGROUND

Gastrin, which is normally formed by mucosal cells in the gastric antrum and by the D cells of the pancreatic islets, is a hormone whose main function is to stimulate secretion of HCl by the gastric mucosa. HCl, in turn, inhibits gastrin formation. Gastrin also stimulates smooth muscle contraction and increases blood circulation and water secretion in the stomach and intestine. Gastrin is regulated by epidermal growth factor in both mice and humans. Gastrin is excreted in excess by pancreatic tumors in the Zollinger-Ellison syndrome. Gastrin maps to human chromosome 17q21. Gastrin-releasing peptide (GRP) stimulates the release of gastrin as well as other gastrointestinal hormones, in addition to acting as an autocrine growth factor for certain cell types. GRP is known to promote lung tumorigenesis in model systems and, interestingly, is induced by retinoic acid. GRP is involved in several functions with the hypothalamus, and is thought to play a role in regulating pituitary hormone secretion. GRP maps to human chromosome 18q21.32.

## REFERENCES

1. Gregory, R.A., et al. 1969. Amino acid constitution of two gastrins isolated from Zollinger-Ellison tumor tissue. *Gut* 10: 603-608.
2. Lebacqz-Verheyden, A.M., et al. 1987. Human gastrin-releasing peptide gene maps to chromosome band 18q21. *Somat. Cell Mol. Genet.* 13: 81-86.
3. Flejter, W.L., et al. 1993. Multicolor FISH mapping with Alu-PCR-amplified YAC clone DNA determines the order of markers in the BRCA1 region on chromosome 17q12-q21. *Genomics* 17: 624-631.
4. Koh, T.J., et al. 1995. Molecular cloning and sequencing of the murine gastrin gene. *Biochem. Biophys. Res. Commun.* 216: 34-41.
5. Sachs, G., et al. 1997. Physiology of isolated gastric endocrine cells. *Annu. Rev. Physiol.* 59: 243-256.
6. Terashi, H., et al. 1998. Growth stimulation of normal melanocytes and nevocellular nevus cells by gastrin releasing peptide (GRP). *J. Dermatol. Sci.* 17: 93-100.
7. Ravi, R.K., 1998. Induction of gastrin releasing peptide by all-*trans* retinoic acid in small cell lung cancer cells. *Oncol. Rep.* 5: 497-501.

## CHROMOSOMAL LOCATION

Genetic locus: GRP (human) mapping to 18q21.32; Grp (mouse) mapping to 18 E1.

## SOURCE

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

Blocking peptide available for competition studies, sc-21613 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

GRP (G-20) is recommended for detection of GRP and neuromedin C of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

GRP (G-20) is also recommended for detection of GRP and neuromedin C in additional species, including equine, canine and porcine.

Suitable for use as control antibody for GRP siRNA (h): sc-39499, GRP siRNA (m): sc-39500, GRP shRNA Plasmid (h): sc-39499-SH, GRP shRNA Plasmid (m): sc-39500-SH, GRP shRNA (h) Lentiviral Particles: sc-39499-V and GRP shRNA (m) Lentiviral Particles: sc-39500-V.

Molecular Weight of GRP: 16 kDa.

## 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) 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.

## 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.



Try **GRP (E-11): sc-271045**, our highly recommended monoclonal alternative to GRP (G-20).