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antibody and ELISA experts

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Anti-Glucagon/GCG Antibody

Catalog Number: PB9705

About GCG

The protein encoded by this gene is actually a preproprotein that is cleaved into four distinct mature peptides. One of these, glucagon, is a pancreatic hormone that counteracts the glucose-lowering action of insulin by stimulating glycogenolysis and gluconeogenesis. Glucagon is a ligand for a specific G-protein linked receptor whose signalling pathway controls cell proliferation. Two of the other peptides are secreted from gut endocrine cells and promote nutrient absorption through distinct mechanisms. Finally, the fourth peptide is similar to glicentin, an active enteroglucagon.

Overview

Product Name	Anti-Glucagon/GCG Antibody
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-Glucagon/GCG Antibody catalog # PB9705. Tested in IF, IHC applications. This antibody reacts with Human, Mouse, Rat.
Application	IF, IHC
Clonality	Polyclonal
Formulation	Each vial contains 4 mg Trehalose, 0.9 mg NaCl and 0.2 mg Na2HPO4.
Storage Instructions	Store at -20˚C for one year from date of receipt. After reconstitution, at 4˚C for one month. It can also be aliquotted and stored frozen at -20˚C for six months. Avoid repeated freeze-thaw cycles.
Host	Rabbit
Uniprot ID	P01275

Technical Details

Immunogen	A synthetic peptide corresponding to a sequence at the N-terminus of human Glucagon/GCG, identical to the related mouse and rat sequences.
Recommended Detection Systems	Boster recommends HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P).
Cross Reactivity	No cross-reactivity with other proteins
Isotype	Rabbit IgG
Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.

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Suggested Dilutions	Immunohistochemistry (Paraffin-embedded Section), 0.5-1ug/ml, Human, Mouse, Rat Immunofluorescence, 2ug/ml, Rat

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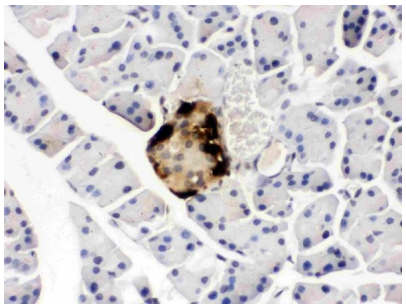
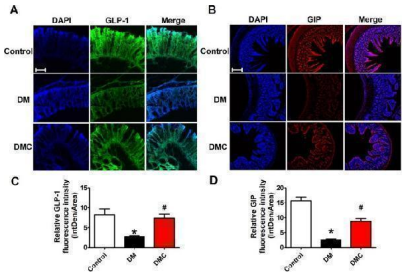
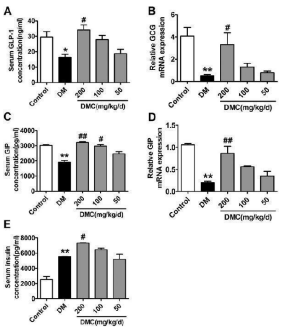
Anti-Glucagon/GCG Antibody (PB9705) Images



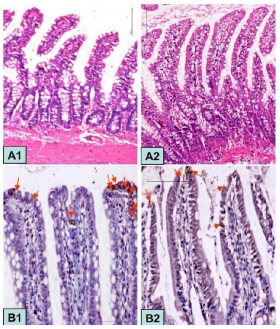
IHC analysis of Glucagon/GCG using anti-Glucagon/GCG antibody (PB9705). Glucagon/GCG was detected in paraffin-embedded section of mouse pancreas tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-Glucagon/GCG Antibody (PB9705) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.



Expression of GLP-1 and GIP in ileum. (A) Images (×400) of immunofluorescence staining of GLP-1 (glucagon-like peptide-1) and GIP (gastric inhibitory polypeptide) expression in ileum in the Control, DM and DMC groups. (B) Immunofluorescence results (×400) indicating GIP expression. (scale bar: 20um). (C) Quantification of the GLP-1 fluorescence intensity (integrated density per stained area). (D) Quantification of the GIP fluorescence intensity (integrated density per stained area). *p<0.05 vs Control, # p<0.05 vs DM; mean ± SEM. Index in PubMed under a CC BY license. PMID: 27721485



GLP-1 and GIP concentrations in the serum and mRNA levels of GCG and GIP. (A) GLP-1 concentrations in the serum in the in the Control, DM and DMC groups. (B) GCG (the gene encoding GLP-1) mRNA levels in ileum. (C) GIP concentrations in the serum in the five groups. (D) GIP mRNA levels in ileum. (E) Insulin levels in the serum in the five groups. *p<0.05, **p<0.01 vs Control, # p<0.05, ## p<0.01 vs DM; mean ± SEM. Index in PubMed under a CC BY license. PMID: 27721485



HE Staining (×200 magnification) and glucagon staining (×400 magnification) in rat ileum . Ileal villus observed in the CUGFR0 (A1) and CUGFR2 (A2) groups with HE staining and NC4 (B1) and CUGFR4 (B2) groups with glucagon staining. Arrow shows a glucagon-positive cell. Index in PubMed under a CC BY license. PMID: 20504302

Alterations of the protein levels of the components of the GSK-3beta—beta-catenin—TCF7L2—GLP-1 axis under varying glucose conditions. (A) Molecular structure of Emodin. (B) Relative protein levels of p-GSK-3beta,

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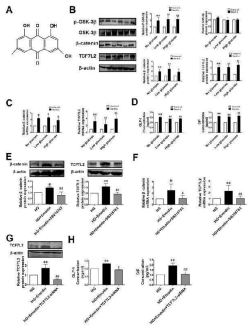
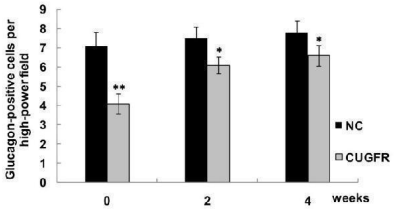
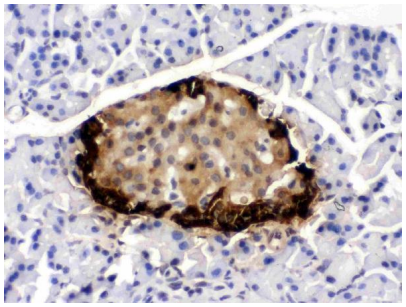


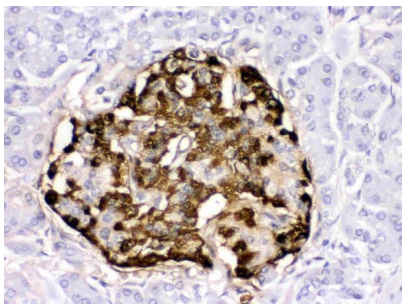
GSK-3beta, beta-catenin and TCF7L2 in Control and Emodin groups under different glucose conditions, detected by the western blot analysis. (C) Relative mRNA expression of beta-catenin and TCF7L2 in Control and Emodin groups under different glucose conditions, detected by real-time PCR. (D) GLP-1 and GIP concentration measured by ELISA in the cell supernatant in Control and Emodin groups under different glucose conditions. *p<0.05, **p<0.01 vs control under no glucose, # p<0.05, ## p<0.01 vs control under low glucose, &p<0.05, && p<0.01 vs control under high glucose; mean ± SEM. (E,F) Inhibition of TCF7L2 and GSK-3beta abolished DMC's effects. (E) Effects of emodin (the main component of DMC) and SB216763 (a specific GSK-3beta inhibitor) on the protein levels of beta-catenin and TCF7L2 under HG (high glucose) conditions. (F) Relative mRNA expression of beta-catenin and TCF7L2 in the three groups. (G) Relative protein expression of TCF7L2 in HG, HG + emodin and HG + emodin + TCF7L2 SiRNA groups. (H) GLP-1 and GIP concentration measured by ELISA in the cell supernatant in the three groups. *p<0.05, **p<0.01 vs HG, #p<0.05, ##p<0.01 vs HG + Emodin; mean ± SEM. Index in PubMed under a CC BY license. PMID: 27721485



Effect of catch-up growth on glucagon-positive cells per high-power field . To quantify the expression of glucagon, an average of 50 sections of rat ileum from each of two animals were examined. The number of cells immunoreactive for glucagon was determined. Data are expressed as means ± SD. *P ≤ 0.05 versus NC group; **P ≤ 0.01 versus NC group. Index in PubMed under a CC BY license. PMID: 20504302



IHC analysis of Glucagon/GCG using anti-Glucagon/GCG antibody (PB9705). Glucagon/GCG was detected in paraffin-embedded section of rat pancreas tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-Glucagon/GCG Antibody (PB9705) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.



IHC analysis of Glucagon/GCG using anti-Glucagon/GCG antibody (PB9705). Glucagon/GCG was detected in paraffin-embedded section of human pancreatic cancer tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml rabbit anti-Glucagon/GCG Antibody (PB9705) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC)(Catalog # SA1022) with DAB as the chromogen.

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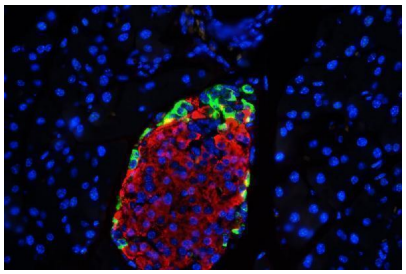
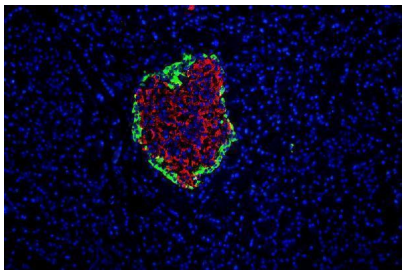


IF analysis of Glucagon/GCG using anti-Glucagon/GCG antibody (PB9705) and anti-Insulin antibody (MA1052).Glucagon/GCG was detected in paraffin-embedded section of mouse pancreas tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/mL rabbit anti-Glucagon/GCG Antibody (PB9705) overnight at 4°C. DyLight®488 Conjugated Goat Anti-Rabbit IgG (BA1127) and Cy3 Conjugated Goat Anti-Mouse IgG (BA1031) were used as secondary antibody at 1:100 dilution and incubated for 30 minutes at 37°C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.



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9 Publications Citing This Product

1. PubMed ID: 32328034, Huo K,Li X,Hu W,Song X,Zhang D,Zhang X,Chen X,Yuan J,Zuo J,Wang X.RFRP-3, the Mammalian Ortholog of GnIH, Is a Novel Modulator Involved in Food Intake and Glucose Homeostasis.Front Endocrinol (Lausanne). 2020 Apr 9;11:194.doi:10.3389/fendo.2020.00194.PMID

2. PubMed ID: 29089617, Low dose doxycycline decreases systemic inflammation and improves glycemic control, lipid profiles, and islet morphology and function in db/db mice

3. PubMed ID: 20842108, Tang Mm, Zhu Qe, Fan Wz, Zhang Sl, Li Dz, Liu Lz, Chen M, Zhang M, Zhou J, Wei Cj. Mol Ther. 2011 Jan;19(1):60-6. Doi: 10.1038/Mt.2010.187. Epub 2010 Sep 14. Intra-Arterial Targeted Islet-Specific Expression Of Sirt1 Protects ?? Cells From Strepto...

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