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GRPR Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP9790c

Product Information

Application	WB, IHC-P, FC, E
Primary Accession	P30550
Other Accession	P52500, P21729
Reactivity	Human, Mouse, Rat
Predicted	Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB24634
Calculated MW	43199
Antigen Region	123-152

Additional Information

Gene ID	2925
Other Names	Gastrin-releasing peptide receptor, GRP-R, GRP-preferring bombesin receptor, GRPR
Target/Specificity	This GRPR antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 123-152 amino acids from the Central region of human GRPR.
Dilution	WB~~1:1000 IHC-P~~1:100~500 FC~~1:10~50 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	GRPR Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	GRPR
Function	Receptor for gastrin-releasing peptide (GRP) (PubMed: 1655761). Signals via

association with G proteins that activate a phosphatidylinositol-calcium second messenger system, resulting in Akt phosphorylation. Contributes to the regulation of food intake. Contributes to the perception of prurient stimuli and transmission of itch signals in the spinal cord that promote scratching behavior, but does not play a role in the perception of pain. Contributes primarily to nonhistaminergic itch sensation. In one study, shown to act in the amygdala as part of an inhibitory network which inhibits memory specifically related to learned fear (By similarity). In another study, shown to contribute to disinhibition of glutamatergic cells in the auditory cortex via signaling on vasoactive intestinal peptide- expressing cells which leads to enhanced auditory fear memories (By similarity). Contributes to the induction of sighing through signaling in the pre-Botzinger complex, a cluster of several thousand neurons in the ventrolateral medulla responsible for inspiration during respiratory activity (By similarity).

Cellular Location Cell membrane; Multi-pass membrane protein

Tissue Location Highly expressed in pancreas (PubMed:11245983). Also expressed in stomach, adrenal cortex and brain (PubMed:11245983) In brain, expressed in cells throughout the cortex (PubMed:34610277)

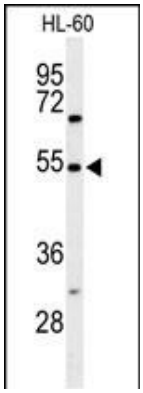
Background

Gastrin-releasing peptide (GRP) regulates numerous functions of the gastrointestinal and central nervous systems, including release of gastrointestinal hormones, smooth muscle cell contraction, and epithelial cell proliferation and is a potent mitogen for neoplastic tissues. The effects of GRP are mediated through the gastrin-releasing peptide receptor. This receptor is a glycosylated, 7-transmembrane G-protein coupled receptor that activates the phospholipase C signaling pathway. The receptor is aberrantly expressed in numerous cancers such as those of the lung, colon, and prostate. An individual with autism and multiple exostoses was found to have a balanced translocation between chromosome 8 and a chromosome X breakpoint located within the gastrin-releasing peptide receptor gene.

References

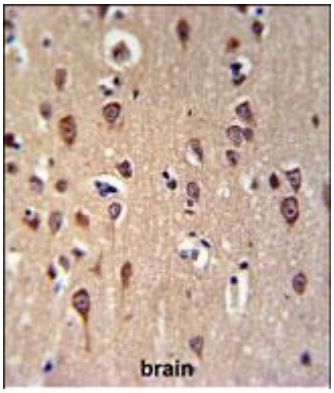
Guey, L.T., et al. Eur. Urol. 57(2):283-292(2010)
Chapuis, J., et al. Mol. Psychiatry 14(11):1004-1016(2009)
Chao, C., et al. J. Surg. Res. 156(1):26-31(2009)
Ananias, H.J., et al. Prostate 69(10):1101-1108(2009)
Fleischmann, A., et al. Endocr. Relat. Cancer 16(2):623-633(2009)

Images

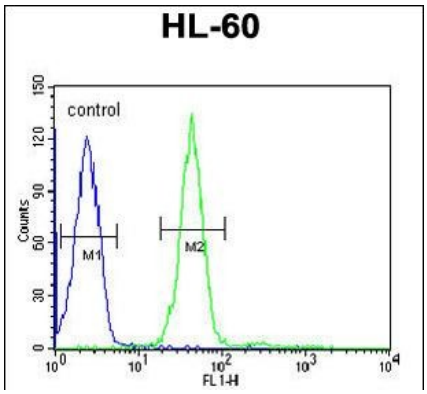


Western blot analysis of GRPR Antibody (Center) (Cat. #AP9790c) in HL-60 cell line lysates (35ug/lane). GRPR (arrow) was detected using the purified Pab.

GRPR Antibody (Center) (Cat. #AP9790c) IHC analysis in



formalin fixed and paraffin embedded brain tissue followed by peroxidase conjugation of the secondary antibody and DAB staining. This data demonstrates the use of the GRPR Antibody (Center) for immunohistochemistry. Clinical relevance has not been evaluated.



GRPR Antibody (Center) (Cat. #AP9790c) flow cytometric analysis of HL-60 cells (right histogram) compared to a negative control cell (left histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.