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Anti-GPR54 Antibody

Catalog # AP60178

Product Information

Application	WB, IF/IC
Primary Accession	Q969F8
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Calculated MW	42586

Additional Information

Gene ID	84634
Other Names	AXOR12; GPR54; KiSS-1 receptor; KiSS-1R; G-protein coupled receptor 54; G-protein coupled receptor OT7T175; hOT7T175; Hypogonadotropin-1; Kisspeptins receptor; Metastin receptor
Target/Specificity	KLH-conjugated synthetic peptide encompassing a sequence within the C-term region of human GPR54. The exact sequence is proprietary.
Dilution	WB~~WB (1/500 - 1/1000) IF/IC~~N/A
Format	Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.01% sodium azide.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

Protein Information

Name	KISS1R
Synonyms	AXOR12 {ECO:0000303|PubMed:11387329}, GP
Function	Receptor for kisspeptins (kisspeptin-10, kisspeptin-13, kisspeptin-14 and metastin/kisspeptin-54) (PubMed:11457843, PubMed:11527393, PubMed:15020672, PubMed:15596153). The hypothalamic KISS1/KISS1R signaling system plays a central role in the regulation of the hypothalamic-pituitary-gonadal reproductive axis by modulating the secretion of gonadotropin-releasing hormone (GnRH) from GnRH neurons (PubMed:12944565, PubMed:14573733, PubMed:15598687, PubMed:17164310, PubMed:18272894). In these neurons, kisspeptin binding to its receptor activates G(q)-dependent signaling, leading to phospholipase C (PLC) activation, and hydrolysis of phosphatidylinositol 4,5-bisphosphate (PIP2) (PubMed:14573733, PubMed:15598687, PubMed:39151001). The subsequent rise in intracellular calcium levels results in the inhibition of

inward rectifier potassium channels and activation of TRPC-like cation channels, leading to GnRH neurons depolarization and stimulation (By similarity). In addition to this pathway, kisspeptin also triggers G(q)-independent signaling via beta-arrestin, leading to MAPK cascade activation and ERK1/ERK2 phosphorylation (PubMed:25147978). Furthermore, activation of KISS1R by kisspeptin-10 recruits phosphatase DUSP18 and SRC to the KISS1R C-terminus through a G(q)-dependent signaling pathway, leading to DUSP18-mediated dephosphorylation of SRC (PubMed:38346942). In bone tissue, this results in down-regulation of osteoclast differentiation and activity, and consequently suppression of bone resorption (By similarity). KISS1R is also involved in the regulation of other processes, including cell proliferation and cell migration (PubMed:11457843, PubMed:11527393, PubMed:15020672, PubMed:15596153, PubMed:38512807).

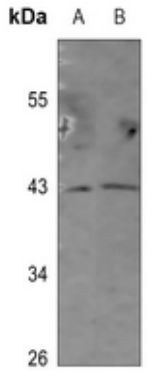
Cellular Location

Cell membrane; Multi-pass membrane protein

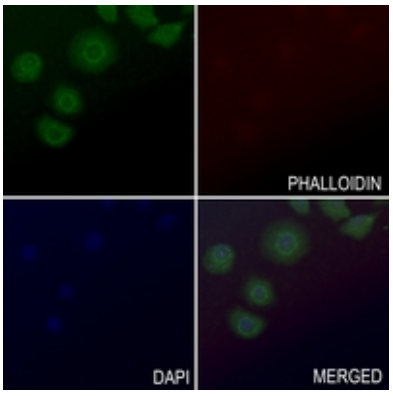
Tissue Location

Expressed in the pancreas, placenta and spinal cord, with lower-level of expression in peripheral blood leukocytes, kidney, lung, fetal liver, stomach, small intestine, testes, spleen, thymus, adrenal glands and lymph nodes. In the adult brain, expressed in the superior frontal gyrus, putamen, caudate nucleus, cingulate gyrus, nucleus accumbens, hippocampus, pons and amygdala, as well as the hypothalamus and pituitary. Expression levels are higher in early (7-9 weeks) than term placentas. Expression levels were increased in both early placentas and molar pregnancies and were reduced in choriocarcinoma cells. Expressed at higher levels in first trimester trophoblasts than at term of gestation. Also found in the extravillous trophoblast suggesting endocrine/paracrine activation mechanism

Images



Western blot analysis of GPR54 expression in HEK293T (A), H1792 (B) whole cell lysates. (Predicted band size: 42 kD; Observed band size: 43 kD)



Immunofluorescent analysis of GPR54 staining in SGC7901 cells. Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with the primary antibody in 3% BSA-PBS and incubated overnight at 4 °C in a hidified chamber. Cells were washed with PBST and incubated with a AF488-conjugated secondary antibody (green) in PBS at room temperature in the dark. Phalloidin - AF594 was used to stain Actin filaments (red). DAPI was used to stain the cell nuclei (blue).

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