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GPR3 Antibody

Catalog # ASC10910

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	P46089
Other Accession	P46089, 1170006
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	35010
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	GPR3 antibody can be used for detection of GPR3 by Western blot at 1 - 2 g/mL. Antibody can also be used for immunohistochemistry starting at 2.5 g/mL. For immunofluorescence start at 20 g/mL.

Additional Information

Gene ID	2827
Other Names	G-protein coupled receptor 3, ACCA orphan receptor, GPR3, ACCA
Target/Specificity	GPR3;
Reconstitution & Storage	GPR3 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	GPR3 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	GPR3
Synonyms	ACCA
Function	Constitutively active G protein-coupled receptor that maintains high cAMP levels and contributes to several processes, including meiotic arrest in oocytes and neuronal development, through activation of intracellular signaling pathways. Essential activator of thermogenic adipocytes, where it drives thermogenesis via constitutive G(s)-coupling activity in the absence of ligand (PubMed:34048700). May be activated by lipid-derived agonists such as oleoylethanolamide (OEA), oleic acid or sphingosine 1-phosphate leading to activation of the G(s)/cAMP/PKA signaling pathway (PubMed:12220620,

PubMed:38376112, PubMed:38287117). Plays a potential role in modulating brain functions, including behavioral responses to stress and amyloid-beta peptide generation in neurons (By similarity). Stimulates neurite outgrowth in cerebellar granule neurons via PKA, ERK, and PI3K-mediated signaling pathways (By similarity).

Cellular Location Cell membrane; Multi-pass membrane protein.

Tissue Location Expressed predominantly in the central nervous system, and at low levels in the lung, kidney, testis, ovary and eye Highly expressed in regions of the brain implicated in the Alzheimer disease

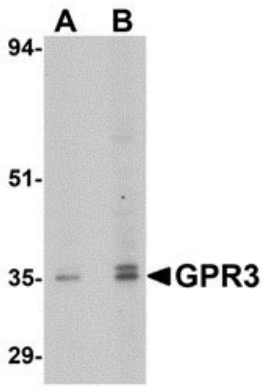
Background

GPR3 Antibody: GPR3, also known as ACCA, is a G-protein coupled receptor that constitutively activates adenylate cyclase and is highly expressed in the central nervous system. Overexpression of GPR3 stimulates the production of amyloid-beta peptide (Abeta), the deposition of which is one of the pathological hallmarks of Alzheimer 's disease (AD), while the ablation of GPR3 prevented the accumulation of Abeta in vitro and in an AD mouse model. This is of particular interest because of the proximity of a reported candidate Alzheimer 's disease (AD) locus, suggesting that GPR3 may be a potential therapeutic target for the treatment of AD. GPR3 has also been shown to block the proliferation of cerebellar granule cell precursors (GCP) during postnatal development by inhibiting the Shh-induced proliferation of GCP, indicating that GPR3 activation may represent one of the signals that triggers the postnatal cell cycle exit and terminal differentiation of GPCs.

References

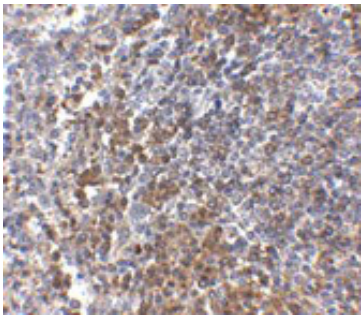
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Eggerickx D, Denef JF, Labbe O, et al. Molecular cloning of an orphan G-protein-coupled receptor that constitutively activates adenylate cyclase. Biochem. J.1995; 309:837-43.
Thathiah A, Spittaels K, Hoffmann M, et al. The orphan G protein-coupled receptor 3 modulates amyloid-beta peptide generation in neurons. Science2009; 323:946-951.
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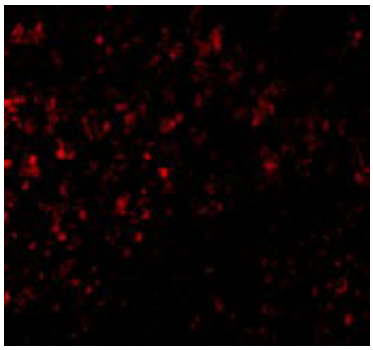
Images



Western blot analysis of GPR3 in EL4 cell lysate with GPR3 antibody at (A) 1 and (B) 2 µg/mL.

Immunohistochemistry of GPR3 in human spleen tissue with GPR3 antibody at 2.5 µg/mL.





Immunofluorescence of GPR3 in Human Spleen cells with GPR3 antibody at 20 µg/mL.

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