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OPRS1 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP2747A

Product Information

Application	WB, FC, E
Primary Accession	Q99720
Other Accession	Q9R0C9, O55242
Reactivity	Human
Predicted	Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	25128
Antigen Region	47-81

Additional Information

Gene ID	10280
Other Names	Sigma non-opioid intracellular receptor 1, Aging-associated gene 8 protein, SR31747-binding protein, SR-BP, Sigma 1-type opioid receptor, SIG-1R, Sigma1-receptor, Sigma1R, hSigmaR1, SIGMAR1, OPRS1, SRBP
Target/Specificity	This OPRS1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 47-81 amino acids from the N-terminal region of human OPRS1.
Dilution	WB~~1:1000 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 prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
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	OPRS1 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	SIGMAR1
Synonyms	OPRS1, SRBP

Function	Functions in lipid transport from the endoplasmic reticulum and is involved in a wide array of cellular functions probably through regulation of the biogenesis of lipid microdomains at the plasma membrane. Involved in the regulation of different receptors it plays a role in BDNF signaling and EGF signaling. Also regulates ion channels like the potassium channel and could modulate neurotransmitter release. Plays a role in calcium signaling through modulation together with ANK2 of the ITP3R-dependent calcium efflux at the endoplasmic reticulum. Plays a role in several other cell functions including proliferation, survival and death. Originally identified for its ability to bind various psychoactive drugs it is involved in learning processes, memory and mood alteration (PubMed:16472803, PubMed:9341151). Necessary for proper mitochondrial axonal transport in motor neurons, in particular the retrograde movement of mitochondria. Plays a role in protecting cells against oxidative stress-induced cell death via its interaction with RNF112 (By similarity).
Cellular Location	Nucleus inner membrane. Nucleus outer membrane. Nucleus envelope. Cytoplasmic vesicle. Endoplasmic reticulum membrane. Membrane; Single-pass membrane protein. Lipid droplet {ECO:0000250|UniProtKB:O55242}. Cell junction. Cell membrane. Cell projection, growth cone Postsynaptic density membrane Note=During interphase, detected at the inner and outer nuclear membrane and the endoplasmic reticulum. Detected on cytoplasmic vesicles during mitosis (PubMed:10406945). Targeted to lipid droplets, cholesterol and galactosylceramide-enriched domains of the endoplasmic reticulum. Accumulation at the endoplasmic reticulum is prominent in alpha-motor neurons of patients with amyotrophic lateral sclerosis (PubMed:23314020). Enriched at cell-cell communication regions, growth cone and postsynaptic structures. Localization is modulated by ligand- binding. In motor neurons it is enriched at cholinergic postsynaptic densities (By similarity). {ECO:0000250|UniProtKB:O55242, ECO:0000269|PubMed:10406945, ECO:0000269|PubMed:23314020}
Tissue Location	Widely expressed with higher expression in liver, colon, prostate, placenta, small intestine, heart and pancreas Expressed in the retina by retinal pigment epithelial cells. Expressed in alpha-motor neurons (PubMed:23314020).

Background

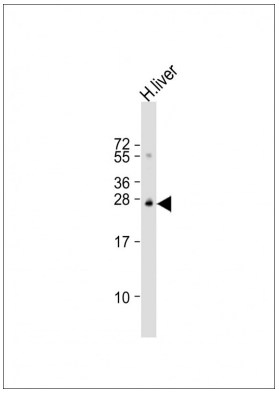
OPRS1 is a receptor protein that interacts with a variety of psychotomimetic drugs, including cocaine and amphetamines. The receptor is believed to play an important role in the cellular functions of various tissues associated with the endocrine, immune, and nervous systems.

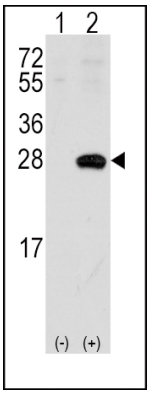
References

Cobos,E.J.,J. Neurochem. 102 (3), 812-825 (2007) Maurice,T., Pharmacol. Biochem. Behav. 84 (4), 581-597 (2006) Lee,I.T.,Eur. J. Pharmacol. 578 (2-3), 123-136 (2008)

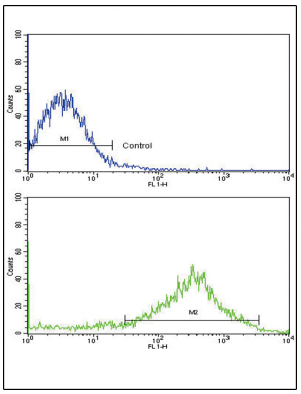
Images

Anti-OPRS1 Antibody (N-term) at 1:1000 dilution + human liver lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 25 kDa Blocking/Dilution buffer: 5% NFDM/TBST.





Western blot analysis of OPRS1 (arrow) using rabbit polyclonal OPRS1 Antibody (N-term) (Cat.#AP2747a).293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected with the OPRS1 gene (Lane 2) (Origene Technologies).



Flow cytometric analysis of NCI-H292 cells using OPRS1 Antibody (N-term)(bottom histogram) compared to a negative control cell (top histogram). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

Citations

- Sigma-1 receptor is involved in diminished ovarian reserve possibly by influencing endoplasmic reticulum stress-mediated granulosa cells apoptosis
- Sigma-1 receptor (σ1R) is downregulated in hepatic malignant tumors and regulates HepG2 cell proliferation, migration and apoptosis.
- The SigmaR1 chaperone drives breast and colorectal cancer cell migration by tuning SK3-dependent Ca2+ homeostasis.