Datasheet for ABIN6257397

anti-Mu Opioid Receptor 1 antibody (C-Term)

4 Images

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Overview

Quantity:	100 µL
Target:	Mu Opioid Receptor 1 (OPRM1)
Binding Specificity:	C-Term
Reactivity:	Human, Mouse, Rat
Host:	Rabbit
Clonality:	Polyclonal
Conjugate:	This Mu Opioid Receptor 1 antibody is un-conjugated
Application:	Western Blotting (WB), Immunohistochemistry (IHC), ELISA, Immunofluorescence (IF), Immunocytochemistry (ICC)

Product Details

Immunogen:	A synthesized peptide derived from human OPRM1, corresponding to a region within C-terminal amino acids.
Isotype:	IgG
Specificity:	OPRM1 Antibody detects endogenous levels of total OPRM1.
Predicted Reactivity:	Pig,Bovine,Sheep,Rabbit,Dog,Chicken,Xenopus
Purification:	The antiserum was purified by peptide affinity chromatography using SulfoLink™ Coupling Resin (Thermo Fisher Scientific).

Target Details

Target:	Mu Opioid Receptor 1 (OPRM1)

Target Details

Alternative Name:	OPRM1 (OPRM1 Products)
Background:	Description: Receptor for endogenous opioids such as beta-endorphin and endomorphin. Receptor for natural and synthetic opioids including morphine, heroin, DAMGO, fentanyl, etorphine, buprenorphin and methadone (PubMed:7905839, PubMed:7957926, PubMed:7891175, PubMed:12589820, PubMed:9689128). Agonist binding to the receptor induces coupling to an inactive GDP-bound heterotrimeric G-protein complex and subsequent exchange of GDP for GTP in the G-protein alpha subunit leading to dissociation of the G-protein complex with the free GTP-bound G-protein alpha and the G-protein beta-gamma dimer activating downstream cellular effectors (PubMed:7905839). The agonist- and cell type-specific activity is predominantly coupled to pertussis toxin-sensitive G(i) and G(o) G alpha proteins, GNAI1, GNAI2, GNAI3 and GNAO1 isoforms Alpha-1 and Alpha-2, and to a lesser extent to pertussis toxin-insensitive G alpha proteins GNAZ and GNA15 (PubMed:12068084). They mediate an array of downstream cellular responses, including inhibition of adenylate cyclase activity and both N-type and L-type calcium channels, activation of inward rectifying potassium channels, mitogen-activated protein kinase (MAPK), phospholipase C (PLC), phosphoinositide/protein kinase (PKC), phosphoinositide 3-kinase (PI3K) and regulation of NF-kappa-B. Also couples to adenylate cyclase stimulatory G alpha proteins. The selective temporal coupling to G-proteins and subsequent signaling can be regulated by RGSZ proteins, such as RGS9, RGS17 and RGS4. Phosphorylation by members of the GPRK subfamily of Ser/Thr protein kinases and association with beta-arrestins is involved in short-term receptor desensitization. Beta-arrestins associate with the GPRK-phosphorylated receptor and uncouple it from the G-protein thus terminating signal transduction. The phosphorylated receptor is internalized through endocytosis via clathrin-coated pits which involves beta-arrestins. The activation of the ERK pathway occurs either in a G-protein-dependent or a beta-arrestin-dependent manner and is regulated by agonist-specific receptor phosphorylation. Acts as a class A G-protein coupled receptor (GPCR) which dissociates from beta-arrestin at or near the plasma membrane and undergoes rapid recycling. Receptor down-regulation pathways are varying with the agonist and occur dependent or independent of G-protein coupling. Endogenous ligands induce rapid desensitization, endocytosis and recycling whereas morphine induces only low desensitization and endocytosis. Heterooligomerization with other GPCRs can modulate agonist binding, signaling and trafficking properties. Involved in neurogenesis. Isoform 12 couples to GNAS and is proposed to be involved in excitatory effects (PubMed:20525224). Isoform 16 and isoform 17 do not bind agonists but may act through oligomerization with binding-competent OPRM1 isoforms and reduce their ligand binding activity (PubMed:16580639).

Target Details

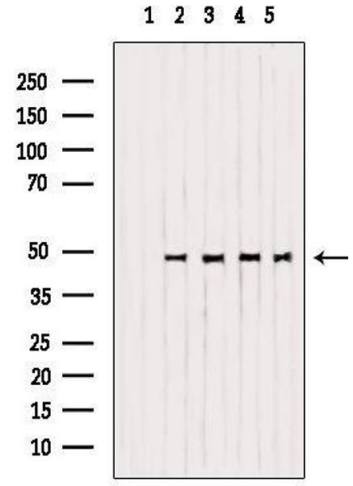
	Gene: OPRM1
Molecular Weight:	48 kDa
Gene ID:	4988
UniProt:	P35372
Pathways:	cAMP Metabolic Process, Synaptic Membrane

Application Details

Application Notes:	WB 1:500-1:1000, IHC: 1:50-1:200, IF/ICC 1:100-500, ELISA(peptide) 1:20000-1:40000
Restrictions:	For Research Use only

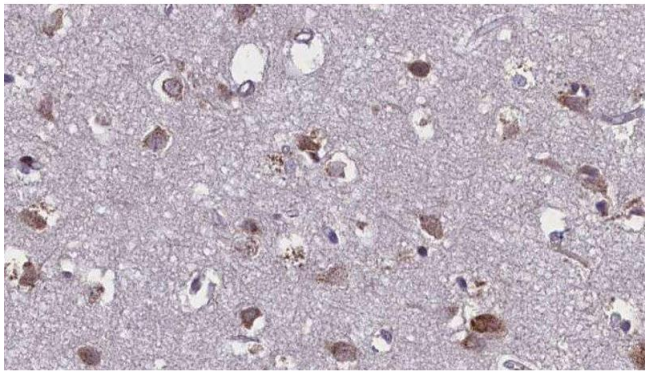
Handling

Format:	Liquid
Concentration:	1 mg/mL
Buffer:	Rabbit IgG in phosphate buffered saline , pH 7.4, 150 mM NaCl, 0.02 % sodium azide and 50 % glycerol.
Preservative:	Sodium azide
Precaution of Use:	This product contains Sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.
Storage:	-20 °C
Storage Comment:	Store at -20 °C. Stable for 12 months from date of receipt.
Expiry Date:	12 months



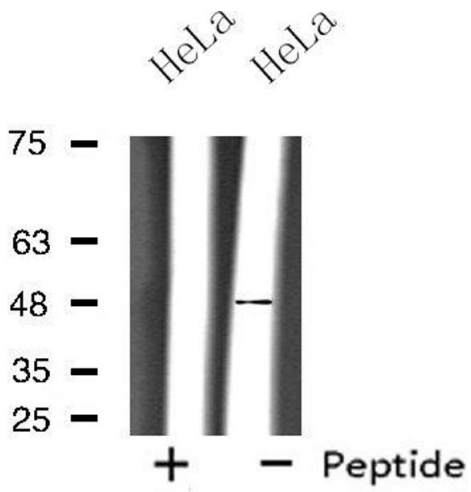
Western Blotting

Image 1. Western blot analysis of extracts from various samples, using OPRM1 Antibody. Lane 1: Rat brain treated with blocking peptide. Lane 2: Rat brain; Lane 3: 293; Lane 4: Sp2/0; Lane 5: B16F10;



Immunohistochemistry

Image 2. ABIN6276107 at 1/100 staining Human brain cancer tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the antibody for 1.5 hours at 22¡ãC. An HRP conjugated goat anti-rabbit antibody was used as the secondary



Western Blotting

Image 3. Western blot analysis of extracts from HeLa cells, using OPRM1 antibody.

Please check the product details page for more images. Overall 4 images are available for ABIN6257397.