Datasheet for ABIN7160273

anti-Mu Opioid Receptor 1 antibody (AA 1-68)

3 Images

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Overview

Quantity:	100 µg
Target:	Mu Opioid Receptor 1 (OPRM1)
Binding Specificity:	AA 1-68
Reactivity:	Human
Host:	Rabbit
Clonality:	Polyclonal
Conjugate:	This Mu Opioid Receptor 1 antibody is un-conjugated
Application:	Western Blotting (WB), Immunohistochemistry (IHC), ELISA, Immunofluorescence (IF)

Product Details

Immunogen:	Recombinant Human Mu-type opioid receptor protein (1-68AA)
Isotype:	IgG
Cross-Reactivity:	Human
Purification:	>95%, Protein G purified

Target Details

Target:	Mu Opioid Receptor 1 (OPRM1)
Alternative Name:	OPRM1 (OPRM1 Products)
Background:	Background: 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).

Aliases: hMOP antibody, LMOR antibody, M-OR-1 antibody, MOP antibody, MOR antibody, MOR-1 antibody, MOR1 antibody, Mu opiate receptor antibody, Mu opioid receptor antibody, Mu-type opioid receptor antibody, Opioid receptor mu 1 antibody, OPRM antibody, OPRM_HUMAN antibody, OPRM1 antibody

Target Details

UniProt:	P35372
Pathways:	cAMP Metabolic Process, Synaptic Membrane

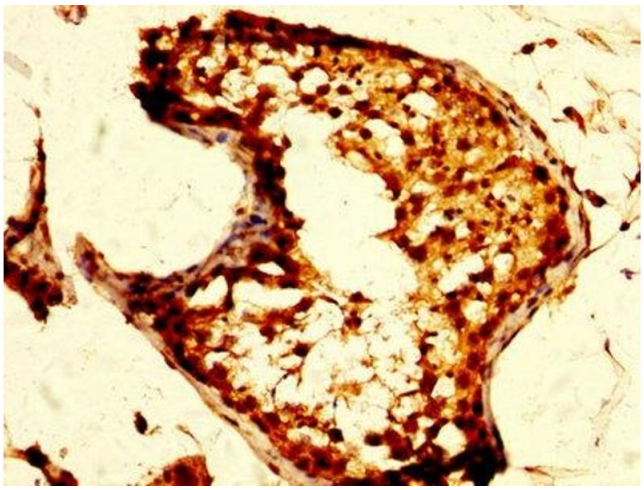
Application Details

Application Notes:	Recommended dilution: WB:1:500-1:5000, IHC:1:500-1:1000, IF:1:50-1:200,
Restrictions:	For Research Use only

Handling

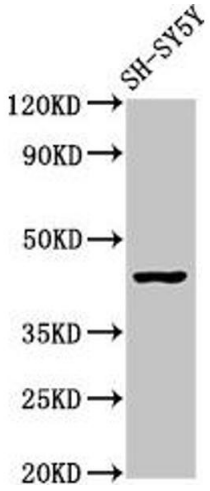
Format:	Liquid
Buffer:	Preservative: 0.03 % Proclin 300 Constituents: 50 % Glycerol, 0.01M PBS, pH 7.4
Preservative:	ProClin
Precaution of Use:	This product contains ProClin: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.
Storage:	-20 °C,-80 °C
Storage Comment:	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.

Images



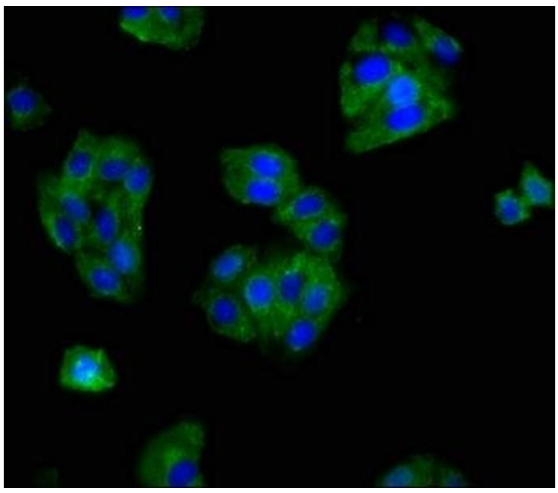
Immunohistochemistry

Image 1. IHC image of ABIN7160273 diluted at 1:500 and staining in paraffin-embedded human testis tissue performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4°C overnight. The primary is detected by a biotinylated secondary antibody and visualized using an HRP conjugated SP system.



Western Blotting

Image 2. Western Blot Positive WB detected in: SH-SY5Y whole cell lysate All lanes: OPRM1 antibody at 2.9 µg/mL Secondary Goat polyclonal to rabbit IgG at 1/50000 dilution Predicted band size: 45, 44, 50, 48, 46, 56, 35, 37, 34, 14, 11, 21 kDa Observed band size: 45 kDa



Immunofluorescence

Image 3. Immunofluorescence staining of HepG2 cells with ABIN7160273 at 1:166, counter-stained with DAPI. The cells were fixed in 4% formaldehyde, permeabilized using 0.2% Triton X-100 and blocked in 10% normal Goat Serum. The cells were then incubated with the antibody overnight at 4°C. The secondary antibody was Alexa Fluor 488-congugated AffiniPure Goat Anti-Rabbit IgG(H+L).

