

Opioid Receptor κ Polyclonal Antibody

Product Specifications

Catalog Number:	905-799-100						
Host:	Rabbit						
Species Reactivity:	Human, Mouse, Rat Other species not tested						
Applications:	WB: Yes Membrane ELISA*: Yes Other applications not tested. <i>The optimal dilution for a specific application must be determined by the investigator.</i> <i>*Under certain conditions, this antibody has been shown to display activation-state specificity. The dilution required to achieve activation-state specificity will vary, and should be optimized by the researcher⁷.</i>						
Predicted M.W.:	Predicted ~43 kDa. Higher m.w. species (~50 kDa) and intermediates also observed which reflect post-translational modification of the receptor ⁸ .						
Concentration:	See product label						
Purification:	Peptide Affinity						
Format:	PBS, 50% glycerol, 0.01% sodium azide						
Storage:	Store at -20°C <i>Shipping conditions may differ from the recommended storage temperature.</i>						
Immunogen:	Synthetic peptide derived from sequence near the amino-terminus of mouse Opioid Receptor κ						
Related Products:	<table border="0"> <tr> <td>SAB-300</td> <td>Goat anti-Rabbit IgG Polyclonal Antibody, HRP Conjugate</td> </tr> <tr> <td>905-744-100</td> <td>Opioid Receptor μ Polyclonal Antibody</td> </tr> <tr> <td>905-745-100</td> <td>Opioid Receptor δ Polyclonal Antibody</td> </tr> </table>	SAB-300	Goat anti-Rabbit IgG Polyclonal Antibody, HRP Conjugate	905-744-100	Opioid Receptor μ Polyclonal Antibody	905-745-100	Opioid Receptor δ Polyclonal Antibody
SAB-300	Goat anti-Rabbit IgG Polyclonal Antibody, HRP Conjugate						
905-744-100	Opioid Receptor μ Polyclonal Antibody						
905-745-100	Opioid Receptor δ Polyclonal Antibody						

Background:

The opioid receptors δ (delta, DOP, OP₁), κ (kappa, KOP, OP₂), and μ (mu, MOP, OP₃) are members of the seven-transmembrane domain-containing receptor family of G-protein coupled receptors, sharing nearly 60% identity, but varying greatly in the extracellular N-terminus region of the receptors¹. The δ -, κ -, and μ -receptors serve as functional receptors for endogenous enkephalin, dynorphin, and β -endorphin peptide ligands, respectively, mediating their signal via coupling to G_{i/o} alpha subunits to inhibit adenylyl cyclases and calcium conductance (N- and L-type channels), and to stimulate MAPK activation and potassium conductance¹⁻³. δ -opioid receptors are highly expressed in the olfactory bulb, neocortex, caudate putamen and nucleus accumbens, with peripheral expression in the gastro-intestinal tract and vas deferens^{4,5}. δ -opioid receptors function to inhibit neurotransmitter release resulting in a variety of biological effects including analgesia, motor integration, gastro-intestinal motility, olfaction, respiration, and memory². Endogenous ligands for the κ -opioid receptors include Dynorphins A and B, and α -neoendorphin^{2,6}. κ -opioid receptors are found in the cerebral cortex, nucleus accumbens, claustrum, and hypothalamus^{4,5}, and are known to regulate nociception, diuresis, feeding, as well as immune and neuroendocrine function². Neural μ -receptor expression is prominent in the caudate putamen, neocortex, thalamus, nucleus accumbens, hippocampus, and amygdala, as well as in peripheral nervous tissues in the gut^{4,5}. Named for its pharmacological mediation of analgesia by morphine, the μ -receptor typically functions as a depressant in physiological processes including respiration, cardiovascular function, gastrointestinal motility, and thermoregulation².

References:

1. Law, P.Y., Wong, Y.H., Loh, H.H. (2000) Annu Rev Pharmacol Toxicol. **40**, 389-430.
2. Dhawan, B.N., et al. (1996) Pharmacol Rev. **48**, 567-592.
3. Fukuda, K., et al. (1996) J Neurochem. **67**, 1309-1316.
4. Mansour, A., et al. (1987) J Neurosci. **7**, 2445-2464.
5. Kitchen, I., et al. (1997) Brain Res. **778**, 73-88.
6. Chavkin, C., et al. (1982) Science **215**, 413-415.
7. Gupta, A., et al. (2007) J Biol Chem. **282**, 5116-5124.
8. Jordan, B.A. and Devi, L.A. (1999) Nature **399**, 697-700.



Visit the Scientific Resources section of our website for ELISA, IHC, and WB protocols.

Generally reagents are good for one year from the date of receipt, except for conjugates which are good for six months and reagents with an expiration date indicated on the label or other supporting document.

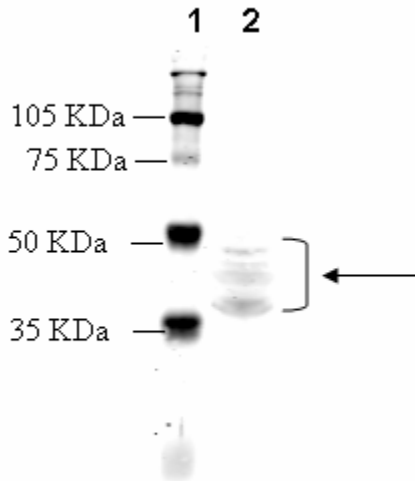
Assay Designs makes every effort to provide a consistent source of high quality polyclonal antibodies. However, due to variations inherent in this technology, investigators are urged to purchase sufficient quantities of a specific lot number if an identical antibody is required throughout a study.

(OVER)

FOR RESEARCH USE ONLY; NOT FOR THERAPEUTIC OR DIAGNOSTIC USE

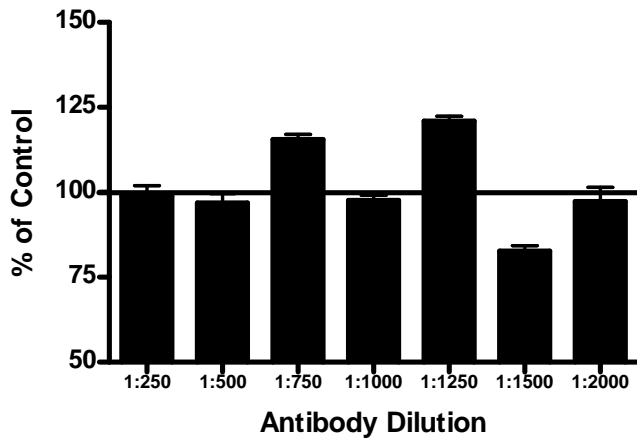
5777 Hines Drive • Ann Arbor, MI • 48108 | Tel: 800-833-8651 or 800-668-6113 | Fax: 734-668-2793
www.assaydesigns.com | orders@assaydesigns.com | technical@assaydesigns.com

Last Revised: 9-26-2008



Western Blot Analysis: MW marker (1) and 50 µg rat brain extract (1) probed with Opioid Receptor κ Polyclonal Antibody at 1 µg/mL

Striatum Membranes



Membrane ELISA: Lewis rat striatum membranes (5 µg/well) were treated with 1 µM concentrations of agonist (Endorphin B) and probed with Opioid Receptor κ Polyclonal Antibody (1:250 to 1:2000 of a 1 µg/µL stock solution) by ELISA. Data from vehicle treated cells were taken as 100%. Results are the mean ± SEM (n=4).

FOR RESEARCH USE ONLY; NOT FOR THERAPEUTIC OR DIAGNOSTIC USE

5777 Hines Drive • Ann Arbor, MI • 48108 | Tel: 800-833-8651 or 800-668-6113 | Fax: 734-668-2793
www.assaydesigns.com | orders@assaydesigns.com | technical@assaydesigns.com

Last Revised: 9-26-2008