Phospho-µ-Opioid Receptor (Ser375) Antibody

Background: The µ-opioid receptor (MOR) belongs to the superfamily of G-protein-coupled receptors. MOR mediates the analgesic and rewarding effects of morphine and other opiates as well as the actions of several endogenous opioid peptides (1). Upon binding to its ligands, this Gαi-coupled receptor inactivates adenylyl cyclase (1) and activates a variety of Gβγ-dependent pathways including the MAPK and the PI3K/Akt cascades (2,3). Trafficking of these receptors to and from the plasma membrane and their desensitization play a significant role in morphine tolerance (4,5). As with other GPCRs, these processes are modulated by phosphorylation at diverse sites within intracellular domains (6). Among other sites, agonist-specific phosphorylation of serine 375 in mouse (serine 377 in human) MOR is essential for its internalization (7).

Specificity/Sensitivity: Phospho-µ-Opioid Receptor (Ser375) Antibody detects transfected µ-opioid receptor only when phosphorylated at Ser375 of mouse MOR (or Ser377 of human MOR).

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Ser377 of human (homologous to Ser375 of mouse) µ-opioid receptor. Antibodies are purified by protein A and peptide affinity chromatography.

Background References:

Western blot analysis of extracts from CHO cells, stably transfected with S375A mutant or Wild-type (WT) µ-opioid receptor, untreated or DAMGO-treated (1 mM for 5 minutes), using Phospho-µ-Opioid Receptor (Ser375) Antibody.

Recommended Antibody Dilutions:
- Western blotting: 1:1000
- Immunoprecipitation: 1:100
- Immunofluorescence (IF-F): 1:200

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

Entrez-Gene ID: 4988
Swiss-Prot Acc.: P35372

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Species Cross-Reactivity: Hm — hamster; Mk — monkey; Mi — mink; C — chicken; Dm — D. melanogaster; X — Xenopus; Z — zebrafish; B — bovine

Applications Key: W — Western; IP — Immunoprecipitation; IHC — Immunohistochemistry; ChIP — Chromatin Immunoprecipitation; IF — Immunofluorescence; F — Flow cytometry; E-P — ELISA-Peptide

Important: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.