

#3981 Store at -20°C

# Gα(o) Antibody (IP Preferred)



✓ 100 µl  
(10 western blots)

**Orders** ■ 877-616-CELL (2355)  
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This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Entrez-Gene ID #2775  
Swiss-Prot Acc. #P09471

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
IP Endogenous	M, (H, R)	40 kDa	Rabbit**

**Background:** Heterotrimeric guanine nucleotide-binding proteins (G proteins) consist of  $\alpha$ ,  $\beta$  and  $\gamma$  subunits and mediate the effects of hormones, neurotransmitters, chemokines and sensory stimuli. To date, over 20 known G $\alpha$  subunits have been classified into four families, G $\alpha$ (s), G $\alpha$ (i/o), G $\alpha$ (q) and G $\alpha$ (12), based on structural and functional similarities (1,2). Phosphorylation of Tyr356 of G $\alpha$ (q)/G $\alpha$ (11) is essential for activation of the G protein, since phenylalanine substitution for Tyr356 changes the interaction of G $\alpha$  with receptors and abolishes ligand-induced IP<sub>3</sub> formation (3).

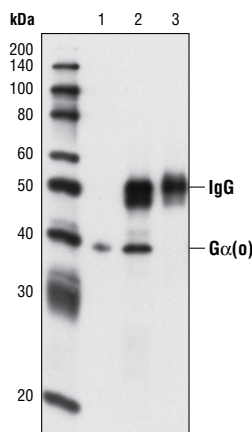
G $\alpha$ (o) is the most abundant G protein in the brain and couples to serotonin, dopamine, GABA (B), opioid, glutamate and cholinergic receptors (4). G $\alpha$ (o) *-/-* mice have neurological defects such as tremors, seizures and poor motor coordination (5).

**Specificity/Sensitivity:** G $\alpha$ (o) Antibody (IP Preferred) detects endogenous levels of total G $\alpha$ (o) protein and is recommended for immunoprecipitation.

**Source/Purification:** Polyclonal antibodies are produced by immunizing animals with a synthetic peptide (KLH-coupled) corresponding to residues surrounding Arg15 of human G $\alpha$ (o). Antibodies are purified by protein A and peptide affinity chromatography.

### Background References:

- (1) Offermanns, S. (2001) *Oncogene* 20, 1635–42.
- (2) Pierce, K.L. et al. (2002) *Nat Rev Mol Cell Biol* 3, 639–50.
- (3) Umemori, H. et al. (1997) *Science* 276, 1878–81.
- (4) Jiang, M. and Bajpayee, N.S. (2009) *Neurosignals* 17, 23–41.
- (5) Jiang, M. et al. (1998) *Proc Natl Acad Sci USA* 95, 3269–74.



Immunoprecipitation and western blot analysis of extracts from mouse brain. Lane 1 contains lysate input, lane 2 was immunoprecipitated with G $\alpha$ (o) Antibody (IP Preferred) and lane 3 was immunoprecipitated with non-specific rabbit IgG. Western blot analysis was performed using G $\alpha$ (o) Antibody #3975.

**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 is determined by western blot.

\*\*Anti-rabbit secondary antibodies must be used to detect this antibody.

### Recommended Antibody Dilutions:

Immunoprecipitation 1:50

For application specific protocols please see the web page for this product at [www.cellsignal.com](http://www.cellsignal.com).

Please visit [www.cellsignal.com](http://www.cellsignal.com) for a complete listing of recommended companion products.

**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.**

**Applications Key:** W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide  
**Species Cross-Reactivity Key:** H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine  
Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.