

#3719 Store at -20C

GNB3 Antibody



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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications: WB	Reactivity: H M R	Sensitivity: Endogenous	MW (kDa): 31	Source: Rabbit	UniProt ID: #P16520	Entrez-Gene Id: 2784
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Product Usage Information	Application Western Blotting	Dilution 1:1000
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.	
Specificity / Sensitivity	GNB3 Antibody recognizes endogenous levels of total GNB3 protein.	
Source / Purification	Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ile123 of human GNB3 protein. Antibodies are purified by protein A and peptide affinity chromatography.	
Background	Heterotrimeric guanine nucleotide-binding proteins, G proteins, transduce ligand binding to G protein-coupled receptors (GPCRs) into intracellular responses (1). G proteins are comprised of 3 subunits, alpha (Gα), beta (Gβ), and gamma (Gγ). Upon activation of GPCRs, the receptor promotes the exchange of GDP to GTP of Gα, changing the confirmation of the switch regions within Gα. The receptor bound heterotrimeric G protein (inactive) is then released, and dissociates into the GTP-bound Gα (active) monomer and the Gβ/Gγ heterodimer (1,2). Gα activates adenylyl cyclase, which converts ATP to the second messenger cAMP. Gα also activates phosphoinositide-specific phospholipase C (PLC), which catalyzes hydrolysis of the phospholipid of phosphatidylinositol 4,5-bisphosphate (PIP ₂), releasing the second messengers IP ₃ and 1,2-diacylglycerol (DAG). IP ₃ activates IP ₃ receptors to release Ca ²⁺ from the ER. DAG is an activator of protein kinase C (PKC), which in turn activates the Erk1/2 pathway (1,3). The primary function of the Gβ/Gγ heterodimer is to inhibit Gα, although it may also activate second messengers (e.g. PLC pathway) or gate ion channels (e.g. GIRK) (1). Guanine nucleotide-binding protein b3 (GNB3) is an isoform of the b subunit. Research studies have shown that a polymorphism in the GNB3 gene, C825T, is associated with hypertension, obesity, and depression (4).	
Background References	<ol style="list-style-type: none"> 1. Hamm, H.E. (1998) <i>J Biol Chem</i> 273, 669-72. 2. Ritchey, E.R. et al. (2010) <i>Neuroscience</i> 169, 1376-91. 3. Hisatsune, C. et al. (2005) <i>J Biol Chem</i> 280, 11723-30. 4. Roskopf, D. et al. (2000) <i>Hypertension</i> 36, 33-41. 	

Species Reactivity	Species reactivity is determined by testing in at least one approved application (e.g., western blot).
Western Blot Buffer	IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.
Applications Key	WB: Western Blotting
Cross-Reactivity Key	H: human M: mouse R: rat Hm: hamster Mk: monkey Vir: virus 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 GP: Guinea Pig Rab: rabbit All: all species expected
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