10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Anti-GNAT1 Antibody

Catalog # AP60296

Product Information

Application	WB, IHC, IF/IC
Primary Accession	P11488
Reactivity	Human, Mouse, Rat, Bovine, Dog
Host	Rabbit
Clonality	Polyclonal
Calculated MW	40041

Additional Information

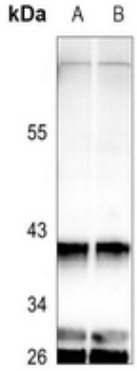
Gene ID	2779
Other Names	GNATR; Guanine nucleotide-binding protein G(t) subunit alpha-1; Transducin alpha-1 chain
Target/Specificity	KLH-conjugated synthetic peptide encompassing a sequence within the center region of human GNAT1. The exact sequence is proprietary.
Dilution	WB~~WB (1/500 - 1/1000), IHC (1/100 - 1/200) IHC~~WB (1/500 - 1/1000), IHC (1/100 - 1/200) IF/IC~~N/A
Format	Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.01% sodium azide.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

Protein Information

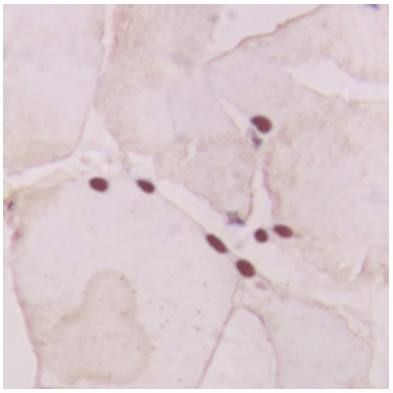
Name	GNAT1 (HGNC:4393)
Synonyms	GNATR
Function	Alpha subunit of the heterotrimeric guanine nucleotide- binding protein (G protein) that transduces signals from the G protein- coupled photoreceptor rhodopsin (RHO). Essential for normal RHO- mediated light perception in retinal rod photoreceptors (PubMed:22190596). Functions as a GTPase, cycling between an active GTP-bound state and an inactive GDP-bound state. Under dim light conditions, photoactivated RHO promotes GDP release and GTP binding. In its active state, GNAT1 stimulates downstream effectors, including rod cGMP-phosphodiesterase (PDE6) complex, to mediate the phototransduction cascade (By similarity). Activation of the PDE6 complex occurs through binding and repositioning of the inhibitory PDE6 gamma subunits (PDE6G), thereby promoting catalytic activity (By similarity).

Cellular Location	Photoreceptor outer segment membrane {ECO:0000250|UniProtKB:P04695}; Peripheral membrane protein {ECO:0000250|UniProtKB:P04695}. Membrane {ECO:0000250|UniProtKB:P04695}; Peripheral membrane protein {ECO:0000250|UniProtKB:P04695}. Photoreceptor inner segment {ECO:0000250|UniProtKB:P20612}. Note=Localizes mainly in the outer segment in the dark-adapted state, whereas is translocated to the inner part of the photoreceptors in the light-adapted state. During dark- adapted conditions, in the presence of UNC119 mislocalizes from the outer segment to the inner part of rod photoreceptors which leads to decreased photoreceptor damage caused by light {ECO:0000250|UniProtKB:P20612}
Tissue Location	Rod photoreceptor cells (PubMed:1614872). Predominantly expressed in the retina followed by the ciliary body, iris and retinal pigment epithelium (PubMed:22190596)

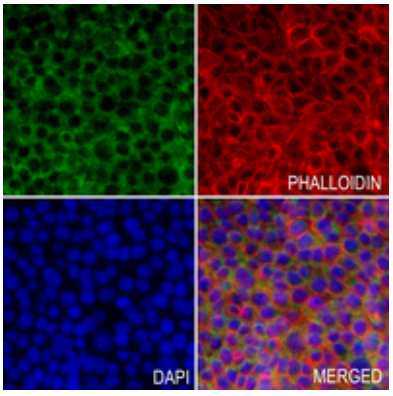
Images



Western blot analysis of GNAT1 expression in mouse eyes (A), rat eyes (B) whole cell lysates. (Predicted band size: 40 kD; Observed band size: 40 kD)

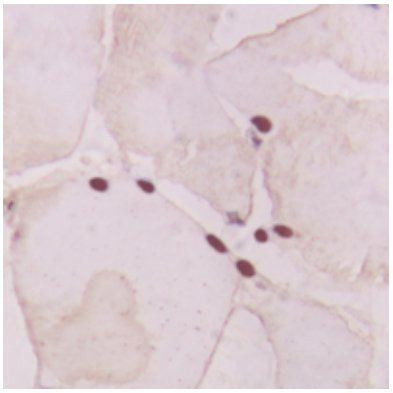


Immunohistochemical analysis of GNAT1 staining in human heart formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.



Immunofluorescent analysis of GNAT1 staining in 4T1 cells. Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with the primary antibody in 3% BSA-PBS and incubated overnight at 4 °C in a hidified chamber. Cells were washed with PBST and incubated with a AF488-conjugated secondary antibody (green) in PBS at room temperature in the dark. Phalloidin - AF594 was used to stain Actin filaments (red). DAPI was used to stain the cell nuclei (blue).

Immunohistochemical analysis of GNAT1 staining in human heart formalin fixed paraffin embedded tissue



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