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GCAP1 Antibody (N-term) Blocking Peptide
Synthetic peptide
Catalog # BP1567a

Specification

GCAP1 Antibody (N-term) Blocking Peptide - Product Information

Primary Accession P43080

GCAP1 Antibody (N-term) Blocking Peptide - Additional Information

Gene ID 118142757;2978

Other Names
Guanylyl cyclase-activating protein 1, GCAP 1, Guanylate cyclase activator 1A, GUCA1A, C6orf131, GCAP, GCAP1, GUCA1

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP1567a was selected from the N-term region of human GCAP1 . A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

GCAP1 Antibody (N-term) Blocking Peptide - Protein Information

Name GUCA1A

Synonyms C6orf131, GCAP, GCAP1, GUCA1

Function
Stimulates retinal guanylyl cyclase when free calcium ions concentration is low and inhibits guanylyl cyclase when free calcium ions concentration is elevated (PubMed:18706439, PubMed:19459154, PubMed:30184081, PubMed:30622141). This Ca(2+)-sensitive regulation of retinal guanylyl cyclase is a key event in recovery of the dark state of rod photoreceptors following light exposure (By similarity). May be involved in cone photoreceptor light response and recovery of response in bright light (By similarity).

Cellular Location
Membrane; Lipid-anchor {ECO:0000250|UniProtKB:P46065}. Photoreceptor inner segment. Cell projection, cilium, photoreceptor outer segment. Note=Present at higher levels in cone than in rod outer segments (PubMed:9620085). Subcellular location is not affected by light or dark conditions

Tissue Location
In the retina, it is expressed in rod and cone photoreceptors.

GCAP1 Antibody (N-term) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

GCAP1 Antibody (N-term) Blocking Peptide - Images

GCAP1 Antibody (N-term) Blocking Peptide - Background

Guanylate cyclase-activating protein is a l Ca(2+)-binding protein that upregulates synthesis of cGMP in photoreceptors. The known mammalian GCAPs are more than 90% similar, consisting of 201 to 205 amino acids, and containing 3 identically conserved Ca(2+)-binding sites. The GUCA1A gene, also termed GCAP1, is transcribed into a single 1.7-kb mRNA species detectable only in the retina. In a 4-generation British family with typical clinical features of autosomal dominant cone dystrophy a tyr99-to-cys mutation) in the GUCA1A gene has been identified. Another family with a pro50-to-leu mutation in GUCA1A demonstrated phenotypic variability ranging from mild photophobia to rod-cone dystrophy. The mutant protein could activate guanylate cyclase 1 (GUCY2D) and displayed similar calcium sensitivity to wildtype protein. However, there was a marked increase in the susceptibility to protease degradation and a reduction in the thermal stability of the pro50-to-leu mutation, which may depress cellular concentration and thereby contribute to retinal cell mortality.

GCAP1 Antibody (N-term) Blocking Peptide - References

Pennesi, M.E., et al., Proc. Natl. Acad. Sci. U.S.A. 100(11):6783-6788 (2003).Payne, A.M., et al., Hum. Mol. Genet. 7(2):273-277 (1998).Subbaraya, I., et al., J. Biol. Chem. 269(49):31080-31089 (1994).