Recombinant Human GUCA1A

Cat. No. GUCA1A-28157TH **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant full length Human GCAP1 with a N terminal proprietary tag; Predicted MW 47.52 kDa.
Species	Human
Source	Wheat Germ
ProteinLength	201 amino acids
Description	This gene plays a role in the recovery of retinal photoreceptors from photobleaching. In the recovery phase, the phototransduction messeneger cGMP is replenished by retinal guanylyl cyclase-1 (GC1). GC1 is activated by decreasing Ca(2+) concentrations following photobleaching. The protein encoded by this gene, guanylyl cyclase activating protein 1 (GCAP1), mediates the sensitivity of GC1 to Ca(2+) concentrations. GCAP1 promotes activity of GC1 at low Ca(2+) concentrations and inhibits GC1 activity at high Ca(2+) concentrations. Mutations in this gene cause autosomal dominant cone dystrophy (COD3); a disease characterized by reduced visual acuity associated with progressive loss of color vision. Mutations in this gene prohibit the inactivation of RetGC1 at high Ca(2+) concentrations; causing the constitutive activation of RetGC1 and, presumably, increased cell death. This gene is expressed in retina and spermatagonia.
Molecular Weight	47.520kDa inclusive of tags
Tissue specificity	Retina; cone outer and inner segments, in particular, in disk membrane regions, and

Tel: 1-631-559-9269 1-516-512-3133
Email: info@creative-biomart.com Fax: 1-631-938-8127
45-1 Ramsey Road, Shirley, NY 11967, USA

	to a lesser extent rod inner and outer segments.
Form	Liquid
Purity	Proprietary Purification
Storage buffer	pH: 8.00Constituents:0.79% Tris HCl, 0.3% Glutathione
Storage	Shipped on dry ice. Upon delivery aliquot and store at -80oC. Avoid freeze / thaw cycles.
Sequences of amino acids	MGNVMEGKSVEELSSTECHQWYKKFMTECPSGQLTLYEFR QFFGLKNLSPSASQY VEQMFETFDFNKDGYIDFMEYVAAL SLVLKGKVEQKLRWYFKLYDVDGNGCIDRDE LLTIIQAIR AINPCSDTTMTAEEFTDTVFSKIDVNGDGELSLEEFIEGV QKDQMLLDTL TRSLDLTRIVRRLQNGEQDEEGADEAAEAA G
Sequence Similarities	Contains 4 EF-hand domains.

GENE INFORMATION

Gene Name	GUCA1A guanylate cyclase activator 1A (retina) [Homo sapiens]
Official Symbol	GUCA1A
Synonyms	GUCA1A; guanylate cyclase activator 1A (retina); C6orf131, chromosome 6 open reading frame 131 , GUCA, GUCA1; guanylyl cyclase-activating protein 1; COD3; cone dystrophy 3; dJ139D8.6; GCAP; GCAP1;
Gene ID	2978

mRNA Refseq	NM_000409
Protein Refseq	NP_000400
MIM	600364
Uniprot ID	P43080
Chromosome Location	6p21.1
Pathway	Olfactory transduction, organism-specific biosystem; Olfactory transduction, conserved biosystem; Phototransduction, organism-specific biosystem; Phototransduction, conserved biosystem; Visual signal transduction: Cones, organism-specific biosystem;
Function	calcium ion binding; calcium sensitive guanylate cyclase activator activity;

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