

## Recombinant Human GUCA1A

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

### SPECIFICATION

<b>Product Overview</b>	Recombinant full length Human GCAP1 with a N terminal proprietary tag; Predicted MW 47.52 kDa.
<b>Species</b>	Human
<b>Source</b>	Wheat Germ
<b>ProteinLength</b>	201 amino acids
<b>Description</b>	<p>This gene plays a role in the recovery of retinal photoreceptors from photobleaching. In the recovery phase, the phototransduction messenger 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.</p>
<b>Molecular Weight</b>	47.520kDa inclusive of tags
<b>Tissue specificity</b>	Retina; cone outer and inner segments, in particular, in disk membrane regions, and

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to a lesser extent rod inner and outer segments.

**Form**

Liquid

**Purity**

Proprietary Purification

**Storage buffer**

pH: 8.00 Constituents: 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**

MGNVMEGKSVEELSSTECHQWYKKFMTECPGQLTLYEFR QFFGLKNLSPSASQY  
VEQMFETFDNFNDGYIDFMEYVAAL SLVLKKGKVEQKLRWYFKLYDVDGNGCIDRDE  
LLTIIQAIR AINPCSDTTMTAEFTDTVFSKIDVNGDGELSLEEFIEGV 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](#)

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

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