

## Calumenin Protein, Human, Recombinant (His)

### General Information

Synonyms:	calumenin
Protein Construction:	Lys20-Phe315
Species:	Human
Expression Host:	HEK293 Cells
Accession:	O43852
Molecular Weight:	36 kDa (predicted); 40-55 kDa (reducing conditions)

### QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 80% as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/ $\mu$ g of the protein as determined by the LAL method.
Formulation:	Lyophilized from a 0.2 $\mu$ m filtered solution of 20mM PB, 150mM NaCl, pH 7.4.

### Preparation and Storage

#### Reconstitution:

Reconstitute the lyophilized protein in distilled water. The product concentration should not be less than 100  $\mu$ g/ml. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

#### Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

#### Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

Calumenin belongs to the CREC family. It contains 6 EF-hand domains. Calumenin is expressed in skeletal muscle (at protein level). Calumenin interacts with GGCX and RYR1 in the presence of calcium ions, but not in the presence of EDTA. Calumenin is involved in regulation of vitamin K-dependent carboxylation of multiple N-terminal glutamate residues. It seems to inhibit gamma-carboxylase GGCX. Calumenin also binds 7 calcium ions with a low affinity and may modulate calcium release from the sarcoplasmic reticulum.

Reference

- Hartley JL, et al. (2001) DNA cloning using in vitro site-specific recombination. *Genome Res.* 10 (11):1788-95.
- Vorum H, et al. (2000) Calumenin interacts with serum amyloid P component. *FEBS Lett.* 465 (2-3):129-34.
- Vorum H, et al. (1999) n calumenin localizes to the secretory pathway and is secreted to the medium. *Exp Cell Res.* 248(2):473-81.

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