

# Recombinant Human S10AC Protein

**For Research Use Only**

## 1. Basic Product Information

Catalog No.: REP50864

Size: 10ug, 100ug

Protein Name: Protein S100-A12 (CGRP) (Calcium-binding protein in amniotic fluid 1) (CAAF1) (Calgranulin-C) (CAGC) (Extracellular newly identified RAGE-binding protein) (EN-RAGE) (Migration inhibitory factor-related protein 6) (MRP-6) (p6) (Neutrophil S100 protein) (S100 calcium-binding protein A12) [Cleaved into: Calcitermin]

Synonym: S100A12

UniProt ID: P80511

UniProt Link: [www.uniprot.org/uniprotkb/P80511/entry](http://www.uniprot.org/uniprotkb/P80511/entry)

Species Source: Human

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 92 AA

Molecular Weight: 11 KD

Protein Tag: C-terminal His6

## 2. Amino Acid Sequence

MTKLEEHLEGIVNIFHQYSVRKGHFDTL SKGELKQLLTKELANTIKNIKDKAVIDEIFQGLDANQDEQV  
DFQEFISLVAIALKAAHYHHTHKE

## 3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

## 4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

## 5. Product Description

This product is recombinant Protein S100-A12 (CGRP) (Calcium-binding protein in amniotic fluid 1) (CAAF1) (Calgranulin-C) (CAGC) (Extracellular newly identified RAGE-binding protein) (EN-RAGE) (Migration inhibitory factor-related protein 6) (MRP-6) (p6) (Neutrophil S100 protein) (S100 calcium-binding protein A12) [Cleaved into: Calcitermin] produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

**Protein Function:** S100A12 is a calcium-, zinc- and copper-binding protein which plays a prominent role in the regulation of inflammatory processes and immune response. Its pro-inflammatory activity involves recruitment of leukocytes, promotion of cytokine and chemokine production, and regulation of leukocyte adhesion and migration. Acts as an alarmin or a danger associated molecular pattern (DAMP) molecule and stimulates innate immune cells via binding to receptor for advanced glycation endproducts (AGER). Binding to AGER activates the MAP-kinase and NF-kappa-B signaling pathways leading to production of pro-inflammatory cytokines and up-regulation of cell adhesion molecules ICAM1 and VCAM1. Acts as a monocyte and mast cell chemoattractant. Can stimulate mast cell degranulation and activation which generates chemokines, histamine and cytokines inducing further leukocyte recruitment to the sites of inflammation. Can inhibit the activity of matrix metalloproteinases; MMP2, MMP3 and MMP9 by chelating Zn(2+) from their active sites. Possesses filariacidal and filariastatic activity. Calcitermin possesses antifungal activity against *C.albicans* and is also active against *E.coli* and *P.aeruginosa* but not *L.monocytogenes* and *S.aureus*.

**Subcellular Localization:** Secreted . Cytoplasm . Cytoplasm, cytoskeleton . Cell membrane ; Peripheral membrane protein . Note=Predominantly localized in the cytoplasm. Upon elevation of the intracellular calcium level, translocated from the cytoplasm to the cytoskeleton and the cell membrane. Upon neutrophil activation is secreted via a microtubule-mediated, alternative pathway.

## 6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.