

PRODUCT DATASHEET

Proguanylin Human E. coli

Cat. No.: RD172046100

Type: Recombinant protein

Size: 0.1 mg

Source: E. coli

Species: Human

Description

Total 104 AA. MW: 11,5 kDa (calculated). UniProtKB acc.no. Q02747 (Val22-Cys115). N-terminal His-tag (10 extra AA). Protein identity confirmed by LC-MS/MS.

Other names

Guanylate cyclase activator 2A, Guanylate cyclase-activating protein 1, Guanylate cyclase-activating protein I, GCAP-I, GUCA2A, GUCA2

Introduction to the molecule

Proguanylin, the 116-amino acid prohormone, is a bioactive form of human guanylin that acts on intestinal guanylate cyclase, thereby regulating intestinal fluid and electrolyte transport through the second messenger, cyclic GMP (cGMP). The cGMP increase inhibits salt absorption and stimulates chloride secretion into the gut. This imbalance of ions is accompanied by a massive accumulation of water in the gut that gives rise to diarrhea and dehydration characteristic of enterotoxin activity. Proguanylin is found in circulation and plays an endocrine role by regulating the function of tissues such as the kidney and liver. Proguanylin is a significant marker in renal insufficiency. Plasma levels of proguanylin increase in patients with chronic renal failure who were undergoing hemodialysis. Studies have shown, that serum levels of Proguanylin has rise in patients with Cohn syndrome therefore it could be used as a novel marker in diagnostic and therapy of cardiac failure.

Research topic

Animal studies, Others, Renal disease

Amino Acid sequence

MKHHHHHHAS VTVQDGNFSF SLESVKKLKD LQEPQEPRVG KLRNFAPIPG EPVVPILCSN PNFPEELKPL CKEPNAQEIL
QRLEEIAEDP GTCEICAYAA CTGC

Purity

Purity as determined by densitometric image analysis: > 90%

Endotoxin

< 0.1 EU/μg

Formulation:

Filtered (0,4 μm) and lyophilized in 0.5 mg/mL in deionized H2O.

Reconstitution:

Add deionized water to prepare a working stock solution of approximately 0.5 mg/mL and let the lyophilized pellet dissolve completely. Filter sterilize your culture media/working solutions containing this non-sterile product before using in cell culture.

Shipping

At ambient temperature. Upon receipt, store the product at the temperature recommended below.

Storage, Stability/Shelf Life

Store the lyophilized protein at -80°C . Lyophilized protein remains stable until the expiry date when stored at -80°C . Aliquot reconstituted protein to avoid repeated freezing/thawing cycles and store at -80°C for long term storage. Reconstituted protein can be stored at 4°C for three days.

Quality control

BCA to determine quantity of the protein.

SDS PAGE to determine purity of the protein.

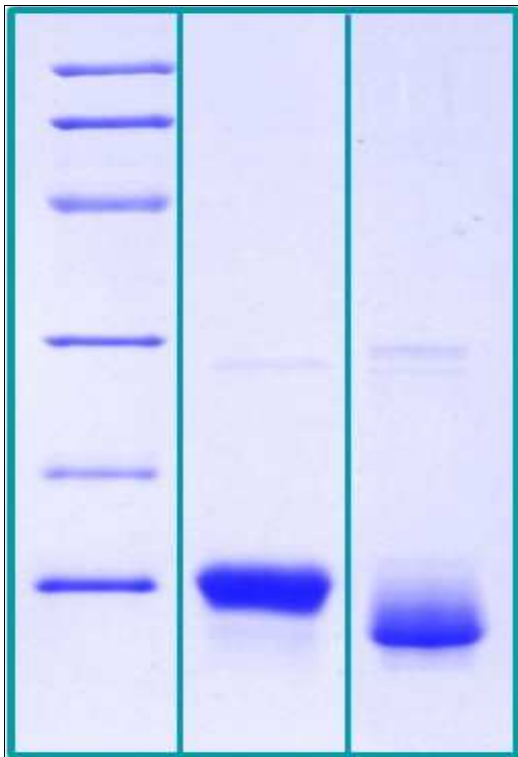
LAL to determine quantity of endotoxin.

Applications

ELISA, Western blotting

Note

This product is intended for research use only.



14% SDS-PAGE separation of Human Proguanylin
1. M.W. marker – 14, 21, 31, 45, 66, 97 kDa
2. reduced and heated sample, 2.5 µg/lane
3. non-reduced and non-heated sample, 2.5 µg/lane

