

Cystatin SN Protein, Human, Recombinant (His)

General Information

Synonyms:	CST1;cystatin SN
Protein Construction:	A DNA sequence encoding the human CST1 (P01037-1) (Met 1-Ser 141) was fused with a polyhistidine tag at the C-terminus. Predicted N terminal: Trp 21
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P01037-1
Molecular Weight:	15.6 kDa (predicted); 17 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:	> 97 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

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

Cystatin-SN, also known as Cystatin-SA-I, Cystatin-1, Salivary cystatin-SA-1 and CST1, is a secreted protein which belongs to the cystatin family. The cystatin superfamily encompasses proteins that contain multiple cystatin-like sequences. Some of the members are active cysteine protease inhibitors, while others have lost or perhaps never acquired this inhibitory activity. Cystatin-SN / CST1 is expressed in submandibular and sublingual saliva but not in parotid saliva (at protein level). Cystatin-SN / CST1 is also expressed in saliva, tears, urine and seminal fluid.

A DRUG SCREENING EXPERT

Human saliva appears to contain several cysteine proteinase inhibitors that are immunologically related to cystatin S but that differ in their specificity due to amino acid sequence differences. Human salivary cystatins include Cystatin-S, Cystatin-S1, Cystatin-S2, Cystatin-SA, Cystatin-SN, Cystatin-C and Cystatin-D. Cystatin-SN is a much better inhibitor of papain and dipeptidyl peptidase I than is cystatin-S, although both inhibit ficin equally well.

Reference

- Saitoh E., et al., (1987), Human cysteine-proteinase inhibitors: nucleotide sequence analysis of three members of the cystatin gene family. *Gene* 61:329-338.
- Al-Hashimi I., et al., (1988), Purification, molecular cloning, and sequencing of salivary cystatin SA-1. *J. Biol. Chem.* 263:9381-9387.
- Deloukas P., et al., (2001), The DNA sequence and comparative analysis of human chromosome 20. *Nature* 414:865-871.

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