Rat Cystatin C / CST3 Protein (His Tag)

Catalog Number: **80040-R08H**

General Information

Gene Name Synonym:

CST3

Protein Construction:

A DNA sequence encoding the rat CST3 (P14841-1) (Met 1-Ala 140) was fused with a polyhistidine tag at the C-terminus.

Source: Rat

Expression Host: HEK293 Cells

QC Testing

Purity: > 95 % as determined by SDS-PAGE

Endotoxin:

< 1.0 EU per μg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 ℃

Predicted N terminal: Gly 21

Molecular Mass:

The recombinant rat CST3 comprises 131 amino acids and predicts a molecular mass of 14.7 kDa. The apparent molecular mass of the rat CST3 is approximately 18-25 kDa in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile 20mM HEPES, 150mM NaCl, pH 7.0

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

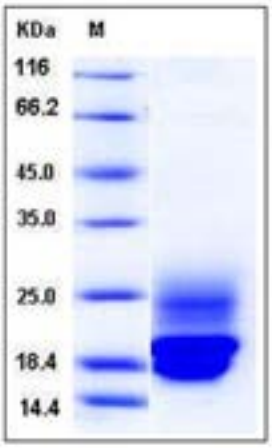
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Cystatin C, also known as Cystatin-3 (CST3) is a secreted type 2 cysteine protease inhibitor synthesized in all nucleated cells, has been proposed as a replacement for serum creatinine for the assessment of renal function, particularly to detect small reductions in glomerular filtration rate. The mature, active form of human cystatin C is a single non-glycosylated polypeptide chain consisting of 120 amino acid residues, with a molecular mass of 13,343-13,359 Da, and containing four characteristic disulfide-paired cysteine residues. Cystatin C is a low-molecular-weight protein which has been proposed as a marker of renal function that could replace creatinine. Indeed, the concentration of Cystatin C is mainly determined by glomerular filtration and is particularly of interest in clinical settings where the relationship between creatinine production and muscle mass impairs the clinical performance of creatinine. Since the last decade, numerous studies have evaluated its potential use in measuring renal function in various populations. More recently, other potential developments for its clinical use have emerged. In almost all the clinical studies, Cystatin C demonstrated a better diagnostic accuracy than serum creatinine in discriminating normal from impaired kidney function, but controversial results have been obtained by comparing this protein with other indices of kidney disease, especially serum creatinine-based equations, such as early atherosclerosis, Alzheimer's dementia, vascular aneurysms, hyperhomocysteinaemia and other neurodegenerative diseases. Cystatin C could be a useful clinical tool to identify HIV-infected persons. In addition, its expression is up-regulated in malignance of certain tumor progression.

References

1.Mares J, *et al.* (2003) Use of cystatin C determination in clinical diagnostics. Biomed Pap Med Fac Univ Palacky Olomouc Czech Repub. 147(2): 177-80. 2.Mussap M, *et al.* (2004) Biochemistry and clinical role of human cystatin C. Crit Rev Clin Lab Sci. 41(5-6): 467-550. 3.Sronie-Vivien S, *et al.* (2008) Cystatin C: current position and future prospects. Clin Chem Lab Med. 46(12): 1664-86.