
Product Data Sheet

Product Name: HP-NAP
 Cat. No.: GP23628
 Batch No.: 1

Product Data

Purity	>98%	Source	Escherichia Coli.
Physical Appearance	solid	Shipping Condition	Shipped at Room temp.
Synonyms	DNA protection during starvation protein; Bacterioferritin; HP-NAP; Neutrophil-activating protein A; NAP A; dps; napA.		
Amino Acid Sequence	MKHHHHHHASMKTFEILKHL QADAIVLFMK VHNFWNVKKG TDFNVHKAT EEIYEEFADM FDDLAERIVQ LGHHPLVTLS EAIKLTRVKE ETKTSFHSKD IFKEILEDYK YLEKEFKELS NTAEKEGDKV TVTYADDQLA KLQKSIWMLQ AHLA.		
Solubility	It is recommended to add 200 μ l of deionized water to prepare a working stock solution of approximately 0.5mg/ml and let the lyophilized pellet dissolve completely. HP-NAP is not sterile! Please filter the product by an appropriate sterile filter before using it in the cell culture.		
Formulation	HP-NAP was filtered (0.4 μ m) and lyophilized in 20mM Tris buffer and 50mM NaCl, pH 7.5.		

Introduction

HP-NAP protects DNA from oxidative damage by sequestering intracellular Fe²⁺ ion and storing it in the form of Fe³⁺ oxyhydroxide mineral. One hydrogen peroxide oxidizes two Fe²⁺ ions, thus preventing hydroxyl radical production by the Fenton reaction. HP-NAP is necessary for the survival in the presence of oxidative stress. Dps is also a virulence factor which activates neutrophils, mast cells and monocytes. HP-NAP binds to neutrophil-glycosphingolipids and to sulfated carbohydrates on mucin. HP-NAP might play a part in the accumulation of neutrophils and monocytes at the site of infection. HP-NAP induces superoxide anion generation, adhesion and chemotaxis of neutrophils, via a pertussis toxin-sensitive pathway involving MAP kinases.

Stability

Store lyophilized protein at -20°C . Aliquot the product after reconstitution to avoid

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repeated freezing/thawing cycles. Reconstituted protein can be stored at 4°C for a limited period of time; it does not show any change after two weeks at 4°C .

Background

HP-NAP Recombinant produced in E.Coli is a single, non-glycosylated, polypeptide chain (Met1-Ala144) containing 154 amino acids including a 10 aa His tag at N-terminus. The total calculated molecular mass is 18.2kDa.

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