

SSPA Protein, E. coli, Recombinant (His)

General Information

Synonyms:	ssp;pog
Protein Construction:	A DNA sequence encoding the E.Coli ssPA (P0ACA3) (Met 1-Ser 212) was expressed, with a polyhistidine tag at the N-terminus. Predicted N terminal: Met
Species:	E. coli
Expression Host:	E. coli
Accession:	P0ACA3
Molecular Weight:	26.4 kDa (predicted); 30 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:	Please contact us for more information.
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

Stringent starvation protein A (ssPA), a member of the GST superfamily, is an RNA polymerase-associated transcriptional activator for the lytic development of phage P1 and is essential for stationary phase-induced acid tolerance of E. coli. It indicates that the flexible regions are not critical for SspA function, whereas the surface pocket is important for both transcriptional activation of the phage P1 late promoter and acid resistance of E. coli. SspA is known to be implicated in survival during nutrient starvation and prolonged stationary phase. Recently,

SspA was shown to play an important role in the stationary phase-induced stress response including acid tolerance by down-regulating the level of the global regulator H-NS, which negatively regulates multiple stress defense systems.

Reference

- Hansen AM, et al. (2003) Escherichia coli SspA is a transcription activator for bacteriophage P1 late genes. *Mol Microbiol.* 48(6): 1621-31.
- Hommais F, et al. (2001) Large-scale monitoring of pleiotropic regulation of gene expression by the prokaryotic nucleoid-associated protein, H-NS. *Mol Microbiol.* 40(1): 20-36.
- Atlung T, et al. (1997) H-NS: a modulator of environmentally regulated gene expression. *Mol Microbiol.* 24(1): 7-17.
- Williams MD, et al. (1994) Starvation-induced expression of SspA and SspB: the effects of a null mutation in *sspA* on Escherichia coli protein synthesis and survival during growth and prolonged starvation. *Mol Microbiol.* 11(6): 1029-43.

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