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NusA E.Coli

Description: NusA Recombinant produced in E.Coli is a single, non-glycosylated polypeptide chain containing 495 amino acids (1-495a.a.) and having a molecular mass of 54 kDa.

Synonyms: Transcription elongation protein nusA, N utilization substance protein A, L factor, nusA, ECK3158, JW3158, b3169, Transcription Termination/Antitermination L Factor.

Source: Escherichia Coli.

Physical Appearance: Sterile Filtered colorless solution.

Amino Acid Sequence:MNKEILAVVE AVSNEKALPR EKIFEALESA LATATKKKYE QEIDVRVQID RKSGDFDTFRRWLVVDEVTQ PTKEITLEAA RYEDESLNLG DYVEDQIESV TFDRITTQTA KQVIVQKVREAERAMVVDQF REHEGEIITG VVKKVNRDNI SLDLGNNAEA VILREDMLPR ENFRPGDRVR GVLYSVRPEA RGAQLFVTRS KPEMLIELFR IEVPEIGEEV IEIKAAARDP GSRA

Purity: Greater than 95.0% as determined by SDS-PAGE.

Formulation:
NusA protein solution contains 1x PBS pH-7.4.

Stability:
Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer periods of time. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).Avoid multiple freeze-thaw cycles.

Usage:
NeoBiolab's products are furnished for LABORATORY RESEARCH USE ONLY. The product may not be used as drµgs, agricultural or pesticidal products, food additives or household chemicals.

Introduction:
NusA is an important player in both prevention and enhancement of transcriptional termination. NusA is important both in Rho-dependent and intrinsic termination, as well as in lambda and other phage antitermination systems. The NusA gene was first identified by isolation of the nusAl mutation, which limits bacteriophage-l growth by preventing the antitermination activity of the l N protein. NusA plays a role in transcriptional antitermination in the cell. It has been shown to specifically aid in read-throµgh of the RNA polymerase genes rpoB and rpoC, as well as in successful synthesis of the ribosomal RNA genes. Additionally to its anti-termination role, NusA is needed for both Rho-dependent and intrinsic transcriptional termination. NusA is obligatory for Rho-dependent termination in lambda phage and in the cell. NusA plays a role in intrinsic termination and the inhibition of RNA elongation. However NusA interacts with all three subunits of RNA polymerase, its termination activity primarily depends on its interaction with the carboxy-terminus of RpoA. NusA induces conformational change in RNA polymerase & prevents RNA interaction with RpoA. This binding sequentially activates NusA, allowing it to bind RNA and promote formation of hairpins at intrinsic termination sites. NusA binds Rho, and participates with sigma70 for binding to the core RNA polymerase complex. NusA does not compete with NusG for binding to either Rho or the polymerase, despite modulating the same process as NusG in both cases.

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