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California Bioscience

Product Datasheet

Product Name	Transcription Termination/Antitermination L Factor E.Coli Recombinant
Cata No	CB501480
Source	*Escherichia Coli.*
Synonyms	Transcription elongation protein nusA, N utilization substance protein A, L factor, nusA, ECK3158, JW3158, b3169, Transcription Termination/Antitermination L Factor.

Description

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

Physical Appearance

Sterile Filtered colorless solution.

Purity

Greater than 95.0% as determined by:
(a) Analysis by RP-HPLC.
(b) Analysis by SDS-PAGE.

Formulation

NusA protein solution contains 1x PBS pH-7.4.

Stability

NusA although stable 4°C for 4 weeks, should be stored desiccated below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).
Please prevent freeze-thaw cycles.

Sequence

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

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GSRAKIAVKT NDKRIDPVGA CVGMRGARVQ AVSTELGGER IDIVLWDDNP AQFVINAMAP ADVASIVVDE DKHTMDIAVE AGNLAQAIGR NGQNVRLASQ LSGWELNVMT DDLQAKHQA EAHAAIDTFT KYLDIDEDFA TVLVEEGFST LEELAYVPMK
ELLEIEGLDE PTVEALRERA KNALATIAQA QEESLGDNKP ADDLLRFGVL DRDLDFKLAA RGVCTLEDLA EQGIDDLADI EGLTDEKAGA LIMAARNICW FGDEA.