T4 gp32 Protein, T4 phage (His, Myc)

Cat. No.:	HY-P700312
Synonyms:	gp32, Helix-destabilizing protein
Species:	Others
Source:	E. coli
Accession:	P03695
Gene ID:	1258602
Molecular Weight:	41.8 kDa

PROPERTIES

Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm filtered solution of Tris/PBS-based buffer, 6% Trehalose, pH 8.0.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	T4 gp32, a single-stranded DNA-binding protein, actively participates in various stages of viral DNA processes, including replication, recombination, and repair. During replication, it coats the lagging-strand single-stranded DNA, providing essential support to the advancing replication fork. This versatile protein stimulates the activities of the viral DNA polymerase and the DnaB-like SF4 replicative helicase, likely through its interaction with the helicase assembly factor. T4 gp32, in collaboration with the replicative helicase and the helicase assembly factor, facilitates the pairing of homologous DNA molecules, mediates homologous DNA strand exchange, and promotes the formation of joint molecules. Acting as an mRNA-specific autogenous translational repressor, T4 gp32 exhibits a dynamic oligomeric state, forming homodimers in the absence of DNA and monomers upon DNA binding. It is an integral part of the replicase complex, contributing to the coordination of DNA replication machinery, including the DNA polymerase, polymerase clamp, clamp loader complex, primase, DnaB-like SF4 replicative helicase, and the helicase assembly factor. Additionally, T4 gp32 interacts with viral SF1 dDA helicase and viral SF2 UvsW repair helicase, highlighting its central role in orchestrating viral DNA processes.

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