

Catalog #:	Package Size	Concentration
3532	25 µl (50 µg)	2 µg/µl
3535	250 µl (500 µg)	2 µg/µl

Description

The T4 Gp59 protein plays critical roles in the assembly of the phage replisome and its coordination with homologous recombination (1, 2). Gp59 is a versatile mediator protein that loads the replicative DNA helicase, Gp41, onto replication forks and recombination intermediates that are generated during different stages of the T4 infection cycle in its host organism, *Escherichia coli*. In addition to helicase loading, Gp59 has been shown to perform a second function: polymerase blocking (3-5). Gp59 inhibits the DNA synthesis and exonuclease activities of the phage polymerase, Gp43, until the replisome is fully assembled (3).

Protein Purity

The physical purity of this enzyme is $\geq 98\%$ as assessed by SDS-PAGE with Coomassie® blue staining (Fig. 1).

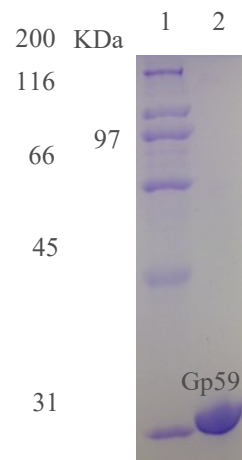


Fig. 1: Lane 1, Protein marker and lane 2, gp59.

Product Source

E. coli BL21 (DE3) strain expressing T4 gp59 gene.

Product Includes

- T4 gp59 protein
- 10X gp59 reaction buffer

1x gp59 reaction buffer composition

20 mM Tris-acetate
 100 mM Potassium acetate
 10 mM Magnesium acetate
 1 mM DTT
 pH 7.8 @ 25°C

Storage Buffer

50 mM Tris-HCl
 50 mM KCl
 1 mM DTT
 0.1 mM EDTA
 50% Glycerol
 pH 7.5 @ 25°C

Storage Temperature

-20°C

Quality Control assays

Gp59 is free from detectable nuclease activities.

References

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2. Beernink, H. T., and Morrical, S. W. (1999) Trends Biochem. Sci. 24, 385–389 Schrock RD, Alberts B. J Biol Chem. 1996;271:16678–16682.
3. Xi, J., Zhang, Z., Zhuang, Z., Yang, J., Spiering, M. M., Hammes, G. G., and Benkovic, S. J. (2005) Biochemistry 44, 7747–7756
4. Xi, J., Zhuang, Z., Zhang, Z., Selzer, T., Spiering, M. M., Hammes, G. G., and Benkovic, S. J. (2005) Biochemistry 44, 2305–2318
5. Nelson, S.W., Yang J., and Benkovic, S. J. (2006) J. Biol. Chem. 281, 8697–8706