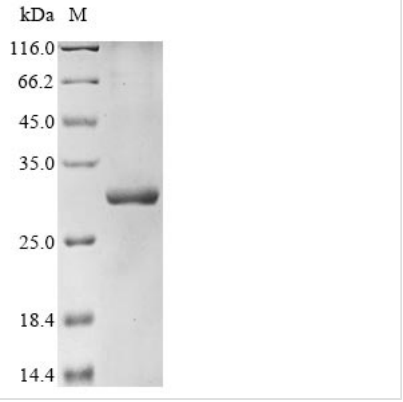
Recombinant Pseudomonas phage phi6 RNA-directed RNA polymerase (P2), partial

Product Code	CSB-EP319967PUV
Abbreviation	Recombinant Pseudomonas phage phi6 RNA-directed RNA polymerase protein, partial
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	P11124
Form	Liquid or Lyophilized powder
Storage Buffer	If the delivery form is liquid, the default storage buffer is Tris/PBS-based buffer, 5%-50% glycerol. If the delivery form is lyophilized powder, the buffer before lyophilization is Tris/PBS-based buffer, 6% Trehalose.
Product Type	Recombinant Protein
Immunogen Species	Pseudomonas phage phi6 (Bacteriophage phi-6)
Purity	Greater than 85% as determined by SDS-PAGE.
Sequence	NKEEKVKEWSLCVATDVSDHDTFWPGWLRDLICDELLNMGYAPWWVKLFET SLKLPVYVGAPAPEQGHTLLGDPSNPDLEVGLSSGQGATDLMGTLLMSITYLV MQLDHTAPHLNSRIKDMPSACRFLDSYWQGHEEIRQISKSDDAILGWTKGRAL VGGHRLFEMLKEGKVNPSP
Research Area	Transcription
Source	E.coli
Target Names	P2
Expression Region	310-485aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 10xHis-tagged and C-terminal Myc-tagged
Mol. Weight	27.2 kDa
Protein Length	Partial
Image	



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

Description

RNA-dependent RNA polymerase (RdRp), also known as Protein P2, is an essential enzyme involved in the replication and transcription of RNA in various organisms, including bacteriophages. RdRp catalyzes the synthesis of RNA from an RNA template, playing a central role in viral RNA metabolism [1]. It is responsible for the synthesis of both minus and plus-strand transcripts [2]. The RdRp P2 protein contains the RNA polymerase active site and is required for the replicase and transcriptase activities [3]. Additionally, it has been demonstrated to catalyze single-stranded RNA replication in vitro [1]. The P2 protein has been identified inside the unexpanded procapsid shell, indicating its involvement in minus RNA strand synthesis [4]. Furthermore, the P2 protein is part of the RNA polymerase complex and is involved in the regulation of viral RNA metabolism [1]. The P2 protein also utilizes its acidic C-terminal tail to regulate the RNA-directed RNA polymerase P2, highlighting its multifaceted role in RNA synthesis [3].

References:
[1] E. Makeyev and D. Bamford, "The polymerase subunit of a dsrna virus plays a central role in the regulation of viral rna metabolism", The Embo Journal, vol. 19, no. 22, p. 6275-6284, 2000. https://doi.org/10.1093/emboj/19.22.6275
[2] D. Nemecek, J. Heymann, J. Qiao, L. Mindich, & A. Steven, "Cryo-electron tomography of bacteriophage ϕ6 procapsids shows random occupancy of the binding sites for rna polymerase and packaging ntpase", Journal of Structural Biology, vol. 171, no. 3, p. 389-396, 2010. https://doi.org/10.1016/j.jsb.2010.06.005
[3] S. Alphonse, J. Arnold, S. Bhattacharya, H. Wang, B. Kloss, C. Cameronet al., "Cystoviral polymerase complex protein p7 uses its acidic c-terminal tail to regulate the rna-directed rna polymerase p2", Journal of Molecular Biology, vol. 426, no. 14, p. 2580-2593, 2014. https://doi.org/10.1016/j.jmb.2014.04.028
[4] J. Heymann, D. Nemecek, N. Cheng, J. Qiao, L. Mindich, & A. Steven, "Expansion of the bacteriophage ϕ6 procapsid revealed by electron cryo-microscopy", Microscopy and Microanalysis, vol. 15, no. S2, p. 586-587, 2009. https://doi.org/10.1017/s1431927609098390

Reconstitution

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL.We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final

	concentration of glycerol is 50%. Customers could use it as reference.
Shelf Life	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.