Data Sheet (Cat.No.TMPH-03712)

Clp1 Protein, Xenopus laevis, Recombinant (His)

General Information

Synonyms:	Pre-mRNA cleavage complex II protein Clp1;Polynucleotide kinase Clp1;clp1; Polyribonucleotide 5'-hydroxyl-kinase Clp1;Polyadenylation factor Clp1
Protein Construction:	1-439 aa
Species:	Xenopus laevis
Expression Host:	E. coli
Accession:	Q6NS21
Molecular Weight:	54.3 kDa (predicted)
AA Sequence:	MSSEDLSAPGPSAPDSSWSSTGPSTKFELERETELRLEVEGTDPVRVELVSGLAEVFGTELTRNKKYTFPPGSR AAIFTWHGCTVQLWGSPDMAYVSRDTPMLLYLNTQVGLEQMRVQAEREGERGPRVLVAGPSDVGKSTLCRL LLNYAVRRGRRPTLVELDVGQGSVSVPGTMGALCVERPADVEEGFSAQAPLVYHFGSTTPGTNIKLYNKLTSR LAHVFNLRCDSNRRASVSGCLINTCGWVKGSGYQALIHAASAFEVDVVLVLDQERLYNDLLRDLPHFVRTLLL PKSGGASERSKECRRESRDQRVREYFYGPRGSLYPHAFEIKFSEVRVYKVGAPTIPDSCLPLGMSQEDNQLKL VPVTPGRDMAHHLLSVVPLDGGSAEEGIEERSVAGFIVITGVDTERQTLTLLSPAPRPLPKCVLLIMDIRFMDLK

QC Testing

Biological Activity:	Activity has not been tested. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 85% as determined by SDS-PAGE.
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	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, pH 8.0.

Preparation and Storage

Reconstitution:

Reconstitute the lyophilized protein in sterile deionized water. The product concentration should not be less than 100 μg/mL. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

Stability & Storage:

Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Polynucleotide kinase that can phosphorylate the 5'-hydroxyl groups of double-stranded RNA (dsRNA), single-stranded RNA (ssRNA), double stranded DNA (dsDNA) and double-stranded DNA:RNA hybrids. dsRNA is phosphorylated more efficiently than dsDNA, and the RNA component of a DNA:RNA hybrid is phosphorylated more efficiently than the DNA component. Plays a role in both tRNA splicing and mRNA 3'-end formation. Component of the tRNA splicing endonuclease complex: phosphorylates the 5'-terminus of the tRNA 3'-exon during tRNA splicing; this phosphorylation event is a prerequisite for the subsequent ligation of the two exon halves and the production of a mature tRNA. Its role in tRNA splicing and maturation is required for cerebellar development. Component of the pre-mRNA cleavage complex II (CF-II), which seems to be required for mRNA 3'-end formation. Also phosphorylates the 5'-terminus of exogenously introduced short interfering RNAs (siRNAs), which is a necessary prerequisite for their incorporation into the RNA-induced silencing complex (RISC). However, endogenous siRNAs and microRNAs (miRNAs) that are produced by the cleavage of dsRNA precursors by dicer1 already contain a 5'-phosphate group, so this protein may be dispensible for normal RNA-mediated gene silencing.