

## Zaire ebolavirus (strain Kikwit-95) L Protein (His & Myc)

### General Information

Synonyms:	Large structural protein;Protein L;Replicase;Transcriptase;RNA-directed RNA polymerase L
Protein Construction:	625-809 aa
Species:	ZEBOV
Expression Host:	E. coli
Accession:	Q6V1Q2
Molecular Weight:	27.9 kDa (predicted)
AA Sequence:	RGSSFVTDLEKYNLAFRYEFTAPFIEYCNRCYGVKNVFNWMHYTIPQCYMHVSDYYNPPHNLTLNDRNPPE GPSSYRGHMGGIEGLQQLWTSISCAQISLVEIKTGFKLRSAVMGDNQCITVLSVFPLETDADEQEQAEDNA ARVAASLAKVTSACGIFLKPDETFVHSGFIYFGKKQYLNQ

### 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:	Tris-based buffer, 50% glycerol

### Preparation and Storage

#### Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

#### 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

RNA-directed RNA polymerase that catalyzes the transcription of viral mRNAs, their capping and polyadenylation. The template is composed of the viral RNA tightly encapsidated by the nucleoprotein (N). The viral polymerase binds to the genomic RNA at the 3' leader promoter, and transcribes subsequently all viral mRNAs with a decreasing efficiency. The first gene is the most transcribed, and the last the least transcribed. The viral phosphoprotein acts as a processivity factor. Capping is concomitant with initiation of mRNA transcription.

Indeed, a GDP polyribonucleotidyl transferase (PRNTase) adds the cap structure when the nascent RNA chain length has reached few nucleotides. Ribose 2'-O methylation of viral mRNA cap precedes and facilitates subsequent guanine-N-7 methylation, both activities being carried by the viral polymerase. Polyadenylation of mRNAs occur by a stuttering mechanism at a slippery stop site present at the end viral genes. After finishing transcription of a mRNA, the polymerase can resume transcription of the downstream gene.; RNA-directed RNA polymerase that catalyzes the replication of viral genomic RNA. The template is composed of the viral RNA tightly encapsidated by the nucleoprotein (N). The replicase mode is dependent on intracellular N protein concentration. In this mode, the polymerase replicates the whole viral genome without recognizing transcriptional signals, and the replicated genome is not capped or polyadenylated.

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