Data Sheet (Cat.No.TMPH-00505)

TargetMol

RPB1 Protein, Drosophila melanogaster, Recombinant (His)

General Information

Synonyms:	Polr2A;RNA polymerase II subunit A;RNA polymerase II subunit B1;DNA-directed RNA polymerase II subunit RPB1;RPB1;DNA-directed RNA polymerase III largest subunit;RpII215
Protein Construction:	1579-1881 aa
Species:	Fruit fly
Expression Host:	P. pastoris (Yeast)
Accession:	P04052
Molecular Weight:	33.6 kDa (predicted)
AA Sequence:	YSPTSPNYTASSPGGASPNYSPSSPNYSPTSPLYASPRYASTTPNFNPQSTGYSPSSSGYSPTSPVYSPTVQF QSSPSFAGSGSNIYSPGNAYSPSSSNYSPNSPSYSPTSPSYSPSSPSYSPTSPCYSPTSPSYSPTSPNYTPVTPS YSPTSPNYSASPQYSPASPAYSQTGVKYSPTSPTYSPPSPSYDGSPGSPQYTPGSPQYSPASPKYSPTSPLYS PSSPQHSPSNQYSPTGSTYSATSPRYSPNMSIYSPSSTKYSPTSPTYTPTARNYSPTSPMYSPTAPSHYSPTSP AYSPSSPT

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:	> 90% 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

DNA-dependent RNA polymerase catalyzes the transcription of DNA into RNA using the four ribonucleoside triphosphates as substrates. Largest and catalytic component of RNA polymerase II which synthesizes mRNA

precursors and many functional non-coding RNAs. Forms the polymerase active center together with the second largest subunit. Pol II is the central component of the basal RNA polymerase II transcription machinery. It is composed of mobile elements that move relative to each other. RPB1 is part of the core element with the central large cleft, the clamp element that moves to open and close the cleft and the jaws that are thought to grab the incoming DNA template. At the start of transcription, a single-stranded DNA template strand of the promoter is positioned within the central active site cleft of Pol II. A bridging helix emanates from RPB1 and crosses the cleft near the catalytic site and is thought to promote translocation of Pol II by acting as a ratchet that moves the RNA-DNA hybrid through the active site by switching from straight to bent conformations at each step of nucleotide addition. During transcription elongation, Pol II moves on the template as the transcript elongates. Elongation is influenced by the phosphorylation status of the C-terminal domain (CTD) of Pol II largest subunit (RPB1), which serves as a platform for assembly of factors that regulate transcription initiation, elongation, termination and mRNA processing.

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