

Product datasheet for **MC225050**

Polr2a (NM_009089) Mouse Untagged Clone

Product data:

Product Type: Expression Plasmids
Product Name: Polr2a (NM_009089) Mouse Untagged Clone
Tag: Tag Free
Symbol: Polr2a
Synonyms: 220kDa; Rpb1; Rpo2-1
Vector: pCMV6-Entry (PS100001)
E. coli Selection: Kanamycin (25 ug/mL)
Cell Selection: Neomycin
Fully Sequenced ORF: >MC225050 representing NM_009089
Red=Cloning site **Blue**=ORF **Orange**=Stop codon

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**GCGATCGCC**

ATGCACGGGGTGGCCCCCTCCGGGGACAGCGCATGCCCGCTGCGCACCATCAAGAGAGTGCAGTTCCG
GAGTCCTGAGTCCGGATGAATTGAAGCGGATGTCTGTGACAGAGGGTGGTATCAAATACCCAGAAACAAC
GGAGGGAGGTGCCCCAACTTGGGGGACTAATGGATCCACGGCAGGGGGTGATTGAGCGGACTGGCCGC
TGCCAAACATGTGCAGGAAACATGACCGAGTGTCTGGCCACTTTGGCCACATCGAATTGGCCAAACCTG
TGTTTCATGTGGGCTTCTGGTGAAGACAATGAAGTTTTGCGCTGTGTCTGCTTCTGCTCCAAACT
GCTTGTAGATTCTAATAACCCGAAGATTAAGGACATCCTGGCCAAATCTAAGGGGCAGCCAAAGAAACGG
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TTGGTGTGGAGCAGCCGGAGGGTGTGAGGATCTGACCAAGAGAAGGGCCATGGCGGCTGTGGCGGTA
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TCTCTCAGTGAGACCTGCTGTGGTGTGACAGGGTTCTGCTCGAAACCAGGATGATCTGACTCACAACCTG
GCTGACATTGTGAAGATCAACAATCAGCTGCGGGGAACGAGCAGAATGGTGCAGCTGCCATGTATAG
CAGAAGATGTA AAACTTCTCCAGTTCCATGTGGCCACCATGGTGGACAATGAACTGCCCGCTTACCCCG
TGCCATGCAGAAGTCTGGCCGTCCTCAAGTCCCTGAAGCAACGGTTGAAGGGCAAGAAGGACGGGTT
CGAGGGAATCTAATGGGCAAGCGAGTGGACTTCTCAGCCCGCACTGTATCACCCCTGACCTAACCTAT
CCATTGACCAAGTGGGTGTGCCCGCTCCATTGCTGCCAATGACCTTTGCAGAGATTGCACACCCTT
CAATATTGACAGACTTCAGGAATTAGTACGAGGGGAAACAGCCAGTATCCAGGAGCCAAGTACATCATC
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ATAAGGTGGAACGGCACATGTGTGATGGGGACATTGTTATCTTCAATCGTCAGCCAACTTTGCACAAAAT
GTCCATGATGGGGCATCGGGTCCGAATCCTCCCTGGTCTACTTTTCGGTTGAATCTTAGTGTGACAACT
CCATACAATGCAGACTTTGATGGAGATGAGATGAATTTGCATCTGCCACAGTCTCTGAAACACGGGCAG



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AGATCCAAGAGTTGGCTATGGTGCCTCGAATGATTGTCACCCCCAGAGCAATCGACCTGTCATGGGTAT
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 CACCCATCCTGATGATGAAGATAGTGGCCCTTACAAGCACATCTCTCTGGGGACACCAAGTTGTAGTG
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 TTTGACCTCCTGCTTGTGCTGAGAAGTCAAATACGGCATGGAATCCCCACCAATATCCTTGGCTGG
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 CACCCACAGCCCTAACTATTCTCAACTAGTCCCAACTATACCCGACATCACCAGCTACAGCCCAAC

CTCAGCCAGTTACTCACCTACAAGTCCCAACTATACACCCACCAGCCCTAATTACAGCCCAACCTCTCCA
 AGCTATTCCCCAACCTCACCCAGTTATTCACCCACCTACCAAGCTACTCCCCTCCAGCCACGATATA
 CACCACAGTCTCCAACCTACACACCAAGCTACCAAGCTACAGTCCCAGCTACCAAGCTACAGCCAC
 TTCACCAAGTACACCCCAACTAGTCTTCTACAGTCCCAGCTCACCAGAGTACACCCAGCTTCTCCC
 AAATACTACCTACAAGCCCTAAATATTCACCCACTTCTCCAAGTATTCTCTACCAGCCCACTTACT
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 CTCTCCAAGTACTCCCAACCAGCCCTACCTACTCGCCACTTCTCCAAGTACTCGCCACCCAGTCCC
 ACCTACTCACCCACTCTCCAAGGGCTCCACCTACTCTCCCACTTCTCTGGCTACTCACCCACTAGCC
 CCACCTACAGCCTCACCAGCCAGCCATCAGCCAGATGACAGCGATGAGGAGAACTGA

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

- Restriction Sites:** Sgfl-Mlul
- ACCN:** NM_009089
- Insert Size:** 5799 bp
- OTI Disclaimer:** Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).
- Components:** The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).
- Reconstitution Method:**
1. Centrifuge at 5,000xg for 5min.
 2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
 3. Close the tube and incubate for 10 minutes at room temperature.
 4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
 5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.
- RefSeq:** [NM_009089.2](#), [NP_033115.1](#)
- RefSeq Size:** 5799 bp
- RefSeq ORF:** 5799 bp
- Locus ID:** 20020
- Cytogenetics:** 11 42.86 cM

Gene Summary:

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 (By similarity). 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 (By similarity). Regulation of gene expression levels depends on the balance between methylation and acetylation levels of the CTD-lysines (PubMed:26687004). Initiation or early elongation steps of transcription of growth-factors-induced immediate early genes are regulated by the acetylation status of the CTD (PubMed:24207025). Methylation and dimethylation have a repressive effect on target genes expression (PubMed:26687004). [UniProtKB/Swiss-Prot Function]