

Product datasheet for **MC229686**

Polr2a (NM_001291068) Mouse Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Polr2a (NM_001291068) 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:	>MC229686 representing NM_001291068 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGCACGGGGTGGCCCCCTCCGGGGACAGCGCATGCCGCTGCGCACCATCAAGAGAGTGCAGTTCC
GAGTCCTGAGTCCGGATGAATTGAAGCGGATGTCTGTGACAGAGGGTGGTATCAAATACCCAGAAACAAC
GGAGGGAGGTGCCCCAACTTGGGGGACTAATGGATCCACGGCAGGGGGTATTGAGCGGACTGGCCGC
TGCCAAACATGTGCAGGAAACATGACCGAGTGTCTGGCCACTTTGGCCACATCGAATTGGCCAAACCTG
TGTTTCATGTGGGCTTCTGGTGAAGACAATGAAGTTTTGCGCTGTGTCTGCTTCTGCTCCAACT
GCTTGTAGATTCTAATAACCCGAAGATTAAGGACATCCTGGCCAAATCTAAGGGGAGCCAAAGAAACGG
CTTACGCATGTCTATGACCTGTGCAAGGGCAAAAACATCTGTGAAGGTGGAGAGGAGATGGACAACAAGT
TTGGTGTGGAGCAGCCGGAGGGTGTGAGGATCTGACCAAGAGAAGGGCCATGGCGGCTGTGGCGGTA
CCAACCCGAATCCGGCGCTCTGGCCTAGAGTTGTATGCTGAATGGAAGCATGTTAATGAGGACTCTCAG
GAGAAAAAGATCTTGTGAGTCCAGAACGAGTGCATGAAATCTCAAACGCATCTCAGATGAGGAGTGTT
TTGTGTTGGGCATGGAGCCTCGCTATGCCCGCCTGAGTGGATGATTGTCACAGTGTTCCTGTGCCTCC
TCTCTCAGTGAGACCTGCTGTGGTGTGACAGGGTTCTGCTCGAAACCAGGATGATCTGACTCACAACCTG
GCTGACATTGTGAAGATCAACAATCAGCTGCGGGGAACGAGCAGAATGGTGCAGCTGCCATGTATAG
CAGAAGATGTA AAACTTCTCCAGTTCCATGTGGCCACCATGGTGGACAATGAACTGCCCGCTTACCCCG
TGCCATGCAGAAGTCTGGCCGTCCTCAAGTCCCTGAAGCAACGGTTGAAGGGCAAGAAGGACGGGTT
CGAGGGAACTAATGGGCAAGCGAGTGGACTTCTCAGCCCGCACTGTATCACCCCTGACCTAACCTAT
CCATTGACCAAGTGGGTGTGCCCGCTCCATTGCTGCCAATGACCTTTGCAGAGATTGCACACCCTT
CAATATTGACAGACTTCAGGAATTAGTACGAGGGGAAACAGCCAGTATCCAGGAGCCAAGTACATCATC
CGCGATAATGGCGATCGAATTGACTTGCCTTTCCATCCTAAGCCAGTGACCTTCTGACAGACTGGCT
ATAAGGTGGAACGGCACATGTGTGATGGGGACATTGTTATCTTCAATCGTCAGCCAACTTTGCACAAAAT
GTCCATGATGGGGCATCGGGTCCGAATCCTCCCTGGTCTACTTTTCGGTTGAATCTTAGTGTGACAACT
CCATACAATGCAGACTTTGATGGAGATGAGATGAATTTGCATCTGCCACAGTCTCTGAAACACGGGCGAG



[View online »](#)

AGATCCAAGAGTTGGCTATGGTGCCTCGAATGATTGTCACCCCCAGAGCAATCGACCTGTCATGGGTAT
TGTGCAAGACACACTCACGGCAGTACGCAAATTCCTAAGAGAGATGTCTTCCTGGAGCGGGGTGAAGTC
ATGAACCTCTTAATGTTTCTGTCCACGTGGGATGGCAAGTCCCACAACCAGCTATCCTCAAGCCCCGGC
CCCTGTGGACAGGCAAGCAGATCTTCTCCCTCATCATACCTGGACACATCAATTGTATCCGTACCCACAG
CACCCATCCTGATGATGAAGATAGTGGCCCTTACAAGCACATCTCTCTGGGGACACCAAGTTGTAGTG
GAGAATGGGGAGCTTATCATGGGCATCCTTTGTAAGAAGTCCCTGGGCACCTCAGCAGGCTCGCTGGTCC
ATATCTCCTACCTGGAGATGGGGCATGACATCACCCGCCTTTCTACTCCAACATTCAAGACTTACCAG
CAACTGGCTTCTCATCGAGGGTCATACCATTTGGCATTGGGGACTCCATTGCAGATTCAAAAGACTTACCAG
GACATTCAGAACACTATTAAGAAAAGCTAAACAAGATGTAATAGAGGTCATTGAGAAGGCTATAACAATG
AGCTAGAACCCTCCAGGAAACACATTGCGTCAGACATTTGAGAATCAAGTGAATCGTATTCTCAATGA
TGCTCGAGACAAAAGTGGCTCCTCTGCACAGAAATCCCTCTCTGAATATAACAACCTCAAGTCTATGGTG
GTGTCTGGAGCCAAGGGTTCCAAGATCAACATCTCCAGGTCATTGCTGTTGTGCGGCAGCAGAATGTAG
AGGGCAAGCGGATCCCATTTGGATTCAAGCATCGGACTCTTCTCACTTTATCAAGGATGATTATGGTCC
TGAGAGCCGAGGCTTTGTAGAAAATTCATACTTGGCTGGTCTCACACCCTGAGTCTTCTTCCATGCC
ATGGGAGGACGAGAAGGTCATTGACACGGCTGTTAAGACTGCTGAGACTGGGTATATTCAGCGAAGGC
TGATAAAGTCCATGGAGTCGGTATGGTAAAATATGATGCAACTGTGAGGAACTCCATCAACCAGGTGGT
ACAGCTGCGCTATGGAGAGGACGGCCTGGCAGGGGAGAGTGTTGAGTTCAGAATCTGGCTACACTTAAA
CCTTCTAATAAAGCTTTTGAGAAGAAGTCCGTTTGGATTATACCAATGAGAGGGCCCTGCGGCGCACCC
TTCAGGAGGACCTGGTAAAGGATGTGCTGAGCAATGCCATATACAGAATGAGCTGGAACGGGAATTTGA
ACGGATGCGTGAAGATCGGGAAGTGTCTCAGGGTCATCTTCCCACTGGTACAGCAAGGTGGTCTCCCT
TGTAACCTTCTGCGGATGATCTGGAATGCTCAGAAAATCTTCCACATCAACCCTCGCCTTCCCTCTGACC
TGCATCCCATCAAAGTGGTAGAGGGAGTCAAAGAATTGAGCAAGAAGTTGTAATTGTGAATGGAGATGA
CCCATAAAGTCGGCAGGCACAGGAGAATGCCACATTGCTCTTCAACATCCACCTAAGATCCACACTCTGC
TCTCGCCGATGGCTGAGGAGTTTCGGCTGAGTGGAGAGGCCTTTGACTGGCTGCTTGGGAGATAGAGT
CCAAGTTCACCAAGCCATTGCCCATCCTGGAGAATGGTGGGAGCTCTGGCTGCTCAGTCTCTTGAGA
ACCTGCCACTCAGATGACCCTGAACACTTTCCACTATGCTGGTGTATCTGCCAAGAATGTGACGCTGGGT
GTGCTCGACTTAAGGAGCTTATCAACATTTCCAAGAAGCCAAAGACTCCTTCACTCACTGTCTTCTGT
TAGGTCAATCTGCACGAGATGCTGAAAGAGCCAAGGACATTCTTGGCGTTGGAACATAACAACATTGAG
GAAGGTGACTGCCAATACAGCCATCTACTATGACCCTAACCCCAAGACAGTGGTGGCAGAAGATCAG
GAGTGGGTGAATGTACTATGAGATGCCCGACTTTGACGTGGCCGGATATCTCCCTGGCTGCTGCGTG
TGGAGCTCGACCGAAAGCACATGACTGACCGGAAGCTTACCATGGAACAGATTGCTGAGAAAATCAATGC
AGGTTTTGGCGATGATTTGAATTGATCTTCAACGATGATAATGCAGAGAAGCTGGTCTTCCGAATCCGC
ATCATGAACAGTATGAAAACAAGATGCAAGAGGAGGAAGAGGTGGTGGATAAAATGGATGATGATGCT
TCTTCCGATGCATTGAGTCCAACATGCTGACAGATATGACCCTGCAGGATCGAGCAGATCAGCAAGGT
GTACATGCACTTACCTCAGACAGACAACAAGAAGAAGATCATCATCACAGAGGATGGGGAGTTCAAGGCC
CTGCAGGAATGGATCTTAGAGACGGATGGTGTGAGCCTGATGCGGGTGTGAGTGAAGGATGTAGACC
CTGTGCGCACCACTCAATGATATTGTGGAGATCTTACGGTACTGGGCATTGAGGCTGTGCGGAAGGC
TCTGGAGCGAGAACTGTACCATGTCATCTCCTTGTATGGTTCTTATGTCAATTATCGGCATTTGGCGTCT
CTGTGTGACACTATGACATGCCGTGGCCACTTGTGATGGCCATCACTCGTATGGGGTCAACCGCCAGGACA
CTGGACCCTCATGAAATGCTCCTTTGAGGAAACGGTGGATGTCCTTATGGAAGCAGCAGCACATGGGGA
GAGTGACCCGATGAAGGGAGTCTCTGAGAATATTGCTGGGCCAGCTCGCTCCAGCTGGTACTGGCTGT
TTTGACCTCCTGCTTGTGCTGAGAAGTCAAATACGGCATGGAATCCCCACCAATATCCTTGGCTGG
GGGCTGCTGGACCTACCGCATGTTCTTTGGCTCTGCACCAGTCCGATGGGAGGAATATCTCTGCAAT
GACACCCTGGAACCAGGGTGCAACTCCCGCTATGGTGCCTGGTCCCGAGTGTGGGAGCGGGATGACC
CCAGGAGCGCGGCTTCTCTCCAGTGTGCATCTGATGCCAGTGGCTCAGCCAGGTTACTCCCTG
CATGGTCTCCACACCAGGCTCTCCGGCTCCCTGGACCCTCAAGCCATACATCCCTCACCAGGTGG
TGCTATGTCTCCAGCTACTCACCGACATCACCAGCCTATGAGCCAGCTCCCTGGGGCTATACACC
CAGAGCCCTCCTACTCCCTACTTACCTTCTACTCCCAACCTCTCCATCTTACTCTCAACCAAGTC
CCAACACAGCCCTACCTCTCCTAGCTACTCGCCACCTCCCTAGCTACTCGCCAACCTCTCCTCCTA
CTCCCCACCTCTCCAAGCTATTCACCACTCTCCTAGCTACTCCCAACCTCTCCAAGCTATTCTCCA
ACATCACCTAGCTATTCTCCAACCTCTCCAGCTACTCACCGACATCTCCTAGCTACTCCCAACCTCTC
CCAGCTACTACCAACTTACCAAGCTATTCTCCACCTCCCGAGTACTCACCGACATCTCCAGCTA

CTCACCAACTTCTCCAAGCTACTCACCAACTTCTCCAAGCTACTCACCCACCAGCCCTAACTATTCTCCA
ACTAGTCCCAACTATACCCCGACATCACCCAGCTACAGCCCAACCTCACCCAGTTACTCACCTACAAGTC
CCAACCTATACACCACCAGCCCTAATTACAGCCCAACCTCTCCAAGCTATTCCCCAACCTCACCCAGTTA
TCCCCCACCTCACCAAGCTACTCCCCCTCCAGCCACGATATACACCACAGTCTCCAACCTACACACCA
AGCTCACCAAGCTACAGTCCCAGCTCACCAAGCTACAGCCCACTTACCCAAGTACACCCCAACTAGTC
TTCTCTACAGTCCCAGCTCACCAAGTACACCCAGCTTCTCCCAAACTACCTACAAGCCCTAAATA
TTCACCCACTTCTCCAAGTATTCTCTACCAGCCCACTTACTCACCTACCACCCAAAATATTCTCCA
ACCTCCCCGACATACTACCAACCTCTCCAGTCTATACCCCGACCTCTCCAAGTACTCCCAACCAGCC
CTACCTACTCGCCCACTTCTCCCAAGTACTCGCCACCAGTCCCACCTACTCACCCACCTCTCCCAAGGG
CTCCACCTACTCTCCCACTTCTCTGGCTACTCACCCACTAGCCCACTACAGCCTCACCCAGCCAGCC
ATCAGCCAGATGACAGCGATGAGGAGAACTGA

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Restriction Sites:	Sgfl-Mlul
ACCN:	NM_001291068
Insert Size:	5913 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).
OTI Annotation:	Clone contains native stop codon, and expresses the complete ORF without any c-terminal tag.
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:	<ol style="list-style-type: none">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:	<u>NM_001291068.1</u> , <u>NP_001277997.1</u>
RefSeq Size:	6736 bp
RefSeq ORF:	5913 bp
Locus ID:	20020
UniProt ID:	<u>P08775</u>
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]