

## Product datasheet for **RN205828**

### **Ncbp1 (NM\_001014785) Rat Untagged Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	Ncbp1 (NM_001014785) Rat Untagged Clone
Tag:	Tag Free
Symbol:	Ncbp1
Synonyms:	MGC105807
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin



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**Fully Sequenced ORF:** >RN205828 representing NM\_001014785  
 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGATCGCC**

ATGTCGGGAGGCGGCACAGCTACGAGAACGATGGTGGACAACCTCACAAAAGGAGGAAGACATCAGATG  
 CAAATGAAACGGAAGATCATTGGGAATCTTTAATATGCAAAGTAGGGGAAAAGAGCGCTTGCTCTTTAGA  
 GAGCAATCTCGAAGGCCTGGCTGGTGTGTTTAGAAGCTGATCTTCTAACTACAAGAGCAAGATCTTAAGG  
 CTCCTTTGTACAGTTGCACGTCTGTACCTGAGAAGCTAACAATTTATACAACATTAGTTGGACTGCTGA  
 ATGCCAGAAATTATAACTTTGGAGGAGAATTTGTAGAAGCTATGATTCGCAACTAAAGAATCGCTAAA  
 AGCAAACAATAATGAAGCTGTATTTGGTCCGTTTTCTGTCTGATCTTGTGAAGTGCATGTGATT  
 GCTGCCCATCTATGGTTGCTATGTTTGAGAATTTGTAAAGTGAAGTGAAGTGAAGTGAAGTGAAGTGAAG  
 TGCGACGGGATGGTATGTGTACGCGTTCTGTCTCCTTGCCTGGGTTGGGAAGGAGTTGATGAAAA  
 GAAAGATGCAGAAATGGACCGCATCTTCTCCAGCACCGAAAGCTATCTCAAAGACGCCAGAAGACTCAT  
 GTGCCCATGTTACAAGTATGGACTGCCGATAAGCCACACCCCCAAGAAGAGTATTAGATTGCCTGTGGG  
 CCCAGATTGAGAAATGAAAAAGGACCGGTGGCAGGAAAGGCACATCCTAAGACCTACCTTGCCTTTGA  
 CAGCATCCTCTGTGAAGCACTACAGCACAACCTGCCTCCTTTCACACCACCGCCTCACACCGAAGACTCC  
 GTGTACCAATGCCAGGGTCATCTTCAGGATGTTTACTACAGACAGACCCAGAGGGTCTGTATGC  
 CAGGGAGCCATTAGTAGAGAGGTTTGTATAGAGGAGAATCTTCATTGCATCATAAAATCCTACTGGAA  
 GGAAAGGAAAACCTTGCTGCCAGTTGGTGTGATATCCAGGCAAGAACAAGATCCATTGAACTACCAC  
 ATAGTGGAGGTGATCTTTCAGAGCTGTTTCCAGCTTCCAGCGCCTCCGCACATTGATGTGATACACGA  
 CACTGCTGATCGAAGTGTGAACTTCCAGCGGCTCTCTGCCCAAGTGTGTCACAGGCCACTGAGAT  
 GCTGTACATGCGTCTGGACACCATGAGTACCACGTGTGTTGACAGGTTTATTAATTGGTTTTCTCATCAT  
 CTAAGTAAATTTCAATCCGCTGGAGCTGGGAAGATTGGTGTGATGTTTACTCAGGATCTTGAAGTGC  
 CCAAACCAAAGTTGTAAGAGAAGTTCTAGAGAAATGTATGAGGTTGTCTTACCATCAGCATATATTAGA  
 TATCGTTCCTCCACCTTCTCAGCTCTGTGCTGCAAACCCACCTGCATTTACAAGTATGGAGACGAA  
 AGTAGCAATCTCTTCTGGACATTCCTGGCACTCTGTTTATCTGTTGCTTTTAAAAGTAAAGGCAACCA  
 ACGATGAAATCTCAGCATTCTGAAGGACGTACCAAATCCTAACCAGGTTGATGATGACGATGAAGGGTT  
 CAGATTTAATCCCTTGAAGTCTTGTCCAGACTCTGCTGCCTTAGCTGCAAGTCTTCCAGT  
 CACTCCTTCAGTCTTGTCAAAGTTTCTGAAGTCTTCAAACCTCTAGCAGAAAGTGAAGGGGAAGC  
 TGATGTGCTGAGAGTCATGTTTGAAGTCTGGAGGAATCACCCGAGATGATTGCTGTACTGGTTGATAA  
 GATGATTCGTACACAGATTGTTGACTGTGCTGCAGTAGCAAACCTGGATCTTCTCATCAGAGCTGTCTCGT  
 GACTTTACGAGGTTGTTTGTGTGGGAAATTTGCACTCTACAATTCGTAAGATGAATAAGCATGTTCTGA  
 AGATCCAGAAAGAGCTGGAAGAAGCTAAAGAGAAACTAGCAAGGCAGCACAAACGACGCAGTGTATGA  
 TGACCGGGGCAGCGACAGGAAGGACGGTGCCTGGAGGAGCAAATCGAAAGGCTGCAGGAGAAAGTGGAG  
 TCTGCTCAGAGCGAGCAAAGAACCTTTTCTCGTCATCTTCCAGCGTTTCATCATGATCTTACTGAACT  
 ACTTGGTGCCTGTGAAACCGATGGGACCAGTATATTGACCCCGTGGTATAAGAACTGCATCGAGAGGCT  
 GCAGCAGATCTTCTACAGCATCACCAGATAATCCAGCAGTACATGGTGACCCTGGAGAAACCTGCTCTTC  
 ACGGCAGAGTTAGATCCTCACATCCTGGCTGTGTTCCAGCAGTCTGTGCTCTGCAGGCC**TAA**

AG**CGGACCG**ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC  
 TGGATTACAAGGATGACGACGATAAGGTTTAA

**Restriction Sites:** Sgfl-RsrII  
**ACCN:** NM\_001014785  
**Insert Size:** 2373 bp

<b>OTI Disclaimer:</b>	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).
<b>Components:</b>	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).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"> <li>1. Centrifuge at 5,000xg for 5min.</li> <li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li> <li>3. Close the tube and incubate for 10 minutes at room temperature.</li> <li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li> <li>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.</li> </ol>
<b>RefSeq:</b>	<u><a href="#">NM_001014785.1</a></u> , <u><a href="#">NP_001014785.1</a></u>
<b>RefSeq Size:</b>	2850 bp
<b>RefSeq ORF:</b>	2373 bp
<b>Locus ID:</b>	298075
<b>UniProt ID:</b>	<u><a href="#">Q56A27</a></u>
<b>Cytogenetics:</b>	5q22

**Gene Summary:**

Component of the cap-binding complex (CBC), which binds cotranscriptionally to the 5'-cap of pre-mRNAs and is involved in various processes such as pre-mRNA splicing, translation regulation, nonsense-mediated mRNA decay, RNA-mediated gene silencing (RNAi) by microRNAs (miRNAs) and mRNA export. The CBC complex is involved in mRNA export from the nucleus via its interaction with ALYREF/THOC4/ALY, leading to the recruitment of the mRNA export machinery to the 5'-end of mRNA and to mRNA export in a 5' to 3' direction through the nuclear pore. The CBC complex is also involved in mediating U snRNA and intronless mRNAs export from the nucleus. The CBC complex is essential for a pioneer round of mRNA translation, before steady state translation when the CBC complex is replaced by cytoplasmic cap-binding protein eIF4E. The pioneer round of mRNA translation mediated by the CBC complex plays a central role in nonsense-mediated mRNA decay (NMD), NMD only taking place in mRNAs bound to the CBC complex, but not on eIF4E-bound mRNAs. The CBC complex enhances NMD in mRNAs containing at least one exon-junction complex (EJC) via its interaction with UPF1, promoting the interaction between UPF1 and UPF2. The CBC complex is also involved in 'failsafe' NMD, which is independent of the EJC complex, while it does not participate in Staufen-mediated mRNA decay (SMD). During cell proliferation, the CBC complex is also involved in microRNAs (miRNAs) biogenesis via its interaction with SRRT/ARS2 and is required for miRNA-mediated RNA interference. The CBC complex also acts as a negative regulator of PARN, thereby acting as an inhibitor of mRNA deadenylation. In the CBC complex, NCBP1/CBP80 does not bind directly capped RNAs (m7GpppG-capped RNA) but is required to stabilize the movement of the N-terminal loop of NCBP2/CBP20 and lock the CBC into a high affinity cap-binding state with the cap structure. Associates with NCBP3 to form an alternative cap-binding complex (CBC) which plays a key role in mRNA export and is particularly important in cellular stress situations such as virus infections. The conventional CBC with NCBP2 binds both small nuclear RNA (snRNA) and messenger (mRNA) and is involved in their export from the nucleus whereas the alternative CBC with NCBP3 does not bind snRNA and associates only with mRNA thereby playing a role only in mRNA export. NCBP1/CBP80 is required for cell growth and viability (By similarity).[UniProtKB/Swiss-Prot Function]