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# NCBP2 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP1946a

## Product Information

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| **Application** | WB, E |
| **Primary Accession** | P52298 |
| **Other Accession** | Q3ZBJ1 |
| **Reactivity** | Human |
| **Predicted** | Bovine, Mouse, Rat, Canine, Rabbit, Chicken |
| **Host** | Rabbit |
| **Clonality** | Polyclonal |
| **Isotype** | Rabbit IgG |
| **Clone Names** | RB9700 |
| **Calculated MW** | 18001 |
| **Antigen Region** | 1-30 |

## Additional Information

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| **Gene ID** | 22916 |
| **Other Names** | Nuclear cap-binding protein subunit 2, 20 kDa nuclear cap-binding protein, Cell proliferation-inducing gene 55 protein, NCBP 20 kDa subunit, CBP20, NCBP-interacting protein 1, NIP1, NCBP2, CBP20 |
| **Target/Specificity** | This NCBP2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 1-30 amino acids from the N-terminal region of human NCBP2. |
| **Dilution** | WB~~1:1000 E~~Use at an assay dependent concentration. |
| **Format** | Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS. |
| **Storage** | Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles. |
| **Precautions** | NCBP2 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures. |

## Protein Information

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| **Name** | NCBP2 |
| **Synonyms** | CBP20 |

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| **Function** | Component of the cap-binding complex (CBC), which binds co-transcriptionally 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, thereby being 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, NCBP2/CBP20 recognizes and binds capped RNAs (m7GpppG-capped RNA) but requires NCBP1/CBP80 to stabilize the movement of its N-terminal loop and lock the CBC into a high affinity cap-binding state with the cap structure. The conventional cap-binding complex with NCBP2 binds both small nuclear RNA (snRNA) and messenger (mRNA) and is involved in their export from the nucleus (PubMed:26382858). |
| **Cellular Location** | Nucleus. Cytoplasm |

## Background

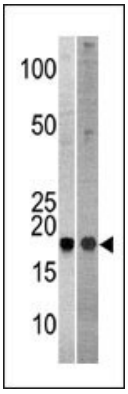
NCBP2 is a component of the nuclear cap-binding protein complex (CBC), which binds to the monomethylated 5' cap of nascent pre-mRNA in the nucleoplasm. NCBP2 has an RNP domain commonly found in RNA binding proteins, and contains the cap-binding activity. The CBC promotes pre-mRNA splicing, 3'-end processing, RNA nuclear export, and nonsense-mediated mRNA decay.

## References

Calero, G., et al., Nat. Struct. Biol. 9(12):912-917 (2002).
Mazza, C., et al., EMBO J. 21(20):5548-5557 (2002).
Kataoka, N., et al., Nucleic Acids Res. 23(18):3638-3641 (1995).
Izaurralde, E., et al., Nature 376(6542):709-712 (1995).

## Images

Western blot analysis of anti-NCBP2 Pab (Cat. #AP1946a) in CEM (left) and Ramos (right)cell line lysates (35ug/lane). NCBP2(arrow) was detected using the purified Pab.




## Citations

- SMG-8 and SMG-9, two novel subunits of the SMG-1 complex, regulate remodeling of the mRNA surveillance complex during nonsense-mediated mRNA decay.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.