

NCBP2 Polyclonal Antibody

Catalog No: #42267

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Description

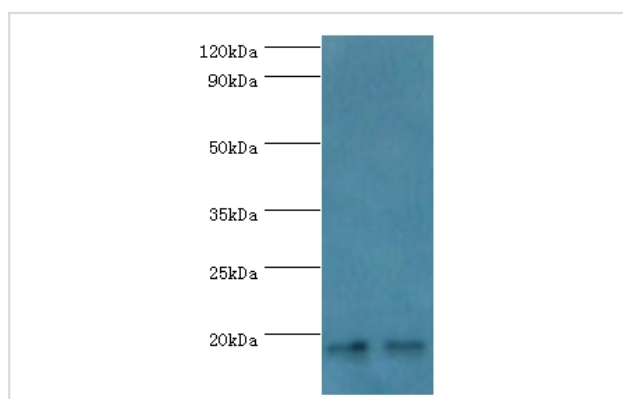
Product Name	NCBP2 Polyclonal Antibody
Host Species	Rabbit
Clonality	Polyclonal
Purification	Antigen Affinity Purified
Applications	WB IHC
Species Reactivity	Hu
Specificity	The antibody detects endogenous level of total NCBP2 polyclonal antibody.
Immunogen Type	protein
Immunogen Description	Recombinant human Nuclear cap-binding protein subunit 2 protein(1-156aa)
Target Name	NCBP2
Other Names	20 kDa nuclear cap-binding protein, Cell proliferation-inducing gene 55 protein, NCBP 20 kDa subunit, CBP20, NCBP-interacting protein 1, NIP1, NCBP2, CBP20, PIG55
Accession No.	Swiss-Prot#: P52298
Uniprot	P52298
GeneID	22916;
Calculated MW	18kd
Concentration	1.0mg/mL
Formulation	PBS with 0.02% sodium azide, 50% glycerol, pH7.3.
Storage	Store at -20°C

Application Details

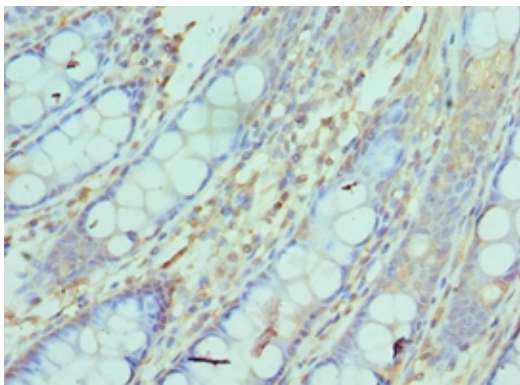
Western blotting: □1:500 - 1:1000

Immunohistochemistry: 1:20 - 1:200

Images



All lanes: Nuclear cap-binding protein subunit 2 antibody at 5ug/ml
Lane 1: HeLa
Lane 2: rat small intestine tissue
secondary
Goat polyclonal to rabbit at 1/10000 dilution
predicted band size :18kDa
observed band size :18kDa



Immunohistochemical analysis of paraffin-embedded human rectal cancer using #42267 at dilution of 1:100.

Background

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.

References

[1]Structural basis of m⁷GpppG binding to the nuclear cap-binding protein complex."Calero G., Wilson K.F., Ly T., Rios-Steiner J.L., Clardy J.C., Cerione R.A.Nat. Struct. Biol. 9:912-917(2002). [2]Large-scale induced fit recognition of an m⁷(7)GpppG cap analogue by the human nuclear cap-binding complex." Mazza C., Segref A., Mattaj I.W., Cusack S. EMBO J. 21:5548-5557(2002). [3]Crystal structure of the human nuclear cap binding complex."Mazza C., Ohno M., Segref A., Mattaj I.W., Cusack S.Mol. Cell 8:383-396(2001).

Note: This product is for in vitro research use only