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Anti-PCBP2/hnRNP E2 Antibody Picoband™ (monoclonal, 4B9C7)

Catalog # ABO16244

Product Information

Application	WB, IF, ICC, FC
Primary Accession	Q15366
Host	Mouse
Isotype	Mouse IgG2a
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Format	Lyophilized
Description	Anti-PCBP2/hnRNP E2 Antibody Picoband™ (monoclonal, 4B9C7) . Tested in Flow Cytometry, IF, ICC, WB applications. This antibody reacts with Human, Mouse, Rat.
Reconstitution	Adding 0.2 ml of distilled water will yield a concentration of 500 g/ml.

Additional Information

Gene ID	5094
Other Names	Poly(rC)-binding protein 2, Alpha-CP2, Heterogeneous nuclear ribonucleoprotein E2, hnRNP E2, PCBP2 {ECO:0000303|PubMed:7607214, ECO:0000312|HGNC:HGNC:8648}
Calculated MW	38580
Application Details	Western blot, 0.25-0.5 g/ml, Human, Mouse, Rat Immunocytochemistry/Immunofluorescence, 5 g/ml, Human Flow Cytometry, 1-3 g/1x10^6 cells, Human
Source	Eukaryota
Contents	Each vial contains 4 mg Trehalose, 0.9 mg NaCl and 0.2 mg Na2HPO4.
Clone Names	Clone: 4B9C7
Immunogen	E.coli-derived human PCBP2/hnRNP E2 recombinant protein (Position: Q197-K276).
Purification	Immunogen affinity purified.
Storage	At -20°C for one year from date of receipt. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for six months. Avoid repeated freezing and thawing.

Protein Information

Name	PCBP2 {ECO:0000303|PubMed:7607214, ECO:0000312|HGNC:HGNC:8648}
Function	Single-stranded nucleic acid binding protein that binds preferentially to oligo dC (PubMed:12414943, PubMed:7607214). Major cellular poly(rC)-binding protein (PubMed:12414943). Also binds poly(rU) (PubMed:12414943). Acts as a negative regulator of antiviral signaling (PubMed:19881509, PubMed:35322803). Negatively regulates cellular antiviral responses mediated by MAVS signaling (PubMed:19881509). It acts as an adapter between MAVS and the E3 ubiquitin ligase ITCH, therefore triggering MAVS ubiquitination and degradation (PubMed:19881509). Negativeley regulates the cGAS-STING pathway via interaction with CGAS, preventing the formation of liquid- like droplets in which CGAS is activated (PubMed:35322803). Together with PCBP1, required for erythropoiesis, possibly by regulating mRNA splicing (By similarity).
Cellular Location	Nucleus. Cytoplasm. Note=Loosely bound in the nucleus (PubMed:7607214). May shuttle between the nucleus and the cytoplasm (PubMed:7607214).
Tissue Location	Detected in all tissues examined.

Background

Poly(rC)-binding protein 2 is a protein that in humans is encoded by the PCBP2 gene. The protein encoded by this gene appears to be multifunctional. Along with PCBP-1 and hnRNPK, it is one of the major cellular poly(rC)-binding proteins. The encoded protein contains three K-homologous (KH) domains which may be involved in RNA binding. Together with PCBP-1, this protein also functions as a translational coactivator of poliovirus RNA via a sequence-specific interaction with stem-loop IV of the IRES, promoting poliovirus RNA replication by binding to its 5'-terminal cloverleaf structure. It has also been implicated in translational control of the 15-lipoxygenase mRNA, human papillomavirus type 16 L2 mRNA, and hepatitis A virus RNA. The encoded protein is also suggested to play a part in formation of a sequence-specific alpha-globin mRNP complex which is associated with alpha-globin mRNA stability. This multiexon structural mRNA is thought to be retrotransposed to generate PCBP-1, an intronless gene with functions similar to that of PCBP2. This gene and PCBP-1 have paralogous genes (PCBP3 and PCBP4) which are thought to have arisen as a result of duplication events of entire genes. This gene also has two processed pseudogenes (PCBP2P1 and PCBP2P2). Multiple transcript variants encoding different isoforms have been found for this gene.

Images

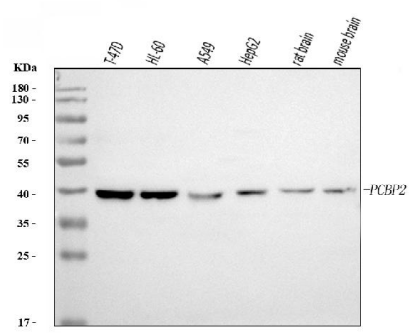

Figure 1. Western blot analysis of PCBP2/hnRNP E2 using anti-PCBP2/hnRNP E2 antibody (M02425).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours.
The sample well of each lane was loaded with 30 ug of sample under reducing conditions.
Lane 1: human T-47D whole cell lysates,
Lane 2: human HL-60 whole cell lysates,
Lane 3: human A549 whole cell lysates,
Lane 4: human HepG2 whole cell lysates,
Lane 5: rat brain tissue lysates,
Lane 6: mouse brain tissue lysates.
After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes.
Blocked the membrane with 5% non-fat milk/TBS for 1.5

hour at RT. The membrane was incubated with mouse anti-PCBP2/hnRNP E2 antigen affinity purified monoclonal antibody (Catalog # M02425) at 0.5 µg/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-mouse IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1001) with Tanon 5200 system. A specific band was detected for PCBP2/hnRNP E2 at approximately 39 kDa. The expected band size for PCBP2/hnRNP E2 is at 39 kDa.

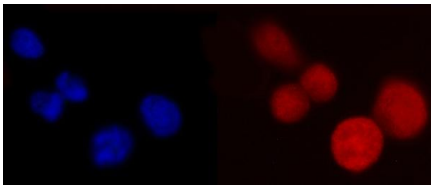

Figure 2. IF analysis of PCBP2/hnRNP E2 using anti-PCBP2/hnRNP E2 antibody (M02425). PCBP2/hnRNP E2 was detected in an immunocytochemical section of Caco-2 cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (AR0022) for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 µg/mL mouse anti-PCBP2/hnRNP E2 Antibody (M02425) overnight at 4°C. DyLight®594 Conjugated Goat Anti-Mouse IgG (BA1141) was used as secondary antibody at 1:100 dilution and incubated for 30 minutes at 37°C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.

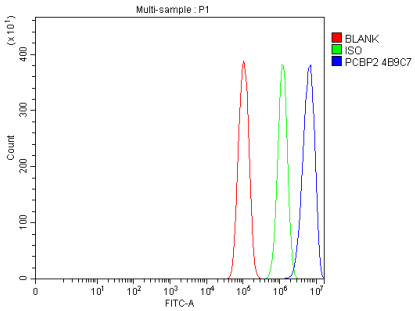

Figure 3. Flow Cytometry analysis of PC-3 cells using anti-PCBP2/hnRNP E2 antibody (M02425). Overlay histogram showing PC-3 cells stained with M02425 (Blue line). The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-PCBP2/hnRNP E2 Antibody (M02425, 1 µg/1x10^6 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-mouse IgG (BA1126, 5-10 µg/1x10^6 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was mouse IgG (1 µg/1x10^6) used under the same conditions. Unlabelled sample (Red line) was also used as a control.