

Anti-hnRNP D/AUF1/HNRNPD Antibody Picoband™ (monoclonal, 4F3)

Catalog # ABO14969

Product Information

Application	WB, IHC, IF, ICC, FC
Primary Accession	Q14103
Host	Mouse
Isotype	Mouse IgG1
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Format	Lyophilized
Description	Anti-hnRNP D/AUF1/HNRNPD Antibody Picoband™ (monoclonal, 4F3) . Tested in Flow Cytometry, IF, IHC, ICC, WB applications. This antibody reacts with Human, Mouse, Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	3184
Other Names	Heterogeneous nuclear ribonucleoprotein D0, hnRNP D0, AU-rich element RNA-binding protein 1, HNRNPD, AUF1, HNRPD
Calculated MW	38434
Application Details	Western blot, 0.1-0.5 µg/ml, Human, Mouse, Rat Immunohistochemistry (Paraffin-embedded Section), 0.5-1 µg/ml, Human, Rat Immunocytochemistry/Immunofluorescence, 4 µg/ml, Human Immunofluorescence, 4 µg/ml, Human Flow Cytometry, 1-3 µg/1x10 ⁶ cells, Human
Source	Eukaryota
Contents	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na ₂ HPO ₄ , 0.01mg Na ₃ .
Clone Names Immunogen	Clone: 4F3 E.coli-derived human hnRNP D/AUF1/HNRNPD recombinant protein (Position: E88-N246).
Purification	Immunogen affinity purified.
Storage	Store 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 freeze-thaw cycles.

Protein Information

Name	HNRNPD
Synonyms	AUF1, HNRPD
Function	Binds with high affinity to RNA molecules that contain AU- rich elements (AREs) found within the 3'-UTR of many proto-oncogenes and cytokine mRNAs. Also binds to double- and single-stranded DNA sequences in a specific manner and functions a transcription factor. Each of the RNA-binding domains specifically can bind solely to a single-stranded non-monotonous 5'-UUAG-3' sequence and also weaker to the single-stranded 5'-TTAGGG-3' telomeric DNA repeat. Binds RNA oligonucleotides with 5'-UUAGGG-3' repeats more tightly than the telomeric single-stranded DNA 5'-TTAGGG-3' repeats. Binding of RRM1 to DNA inhibits the formation of DNA quadruplex structure which may play a role in telomere elongation. May be involved in translationally coupled mRNA turnover. Implicated with other RNA-binding proteins in the cytoplasmic deadenylation/translational and decay interplay of the FOS mRNA mediated by the major coding-region determinant of instability (mCRD) domain. May play a role in the regulation of the rhythmic expression of circadian clock core genes. Directly binds to the 3'UTR of CRY1 mRNA and induces CRY1 rhythmic translation. May also be involved in the regulation of PER2 translation.
Cellular Location	Nucleus. Cytoplasm. Note=Localized in cytoplasmic mRNP granules containing untranslated mRNAs. Component of ribonucleosomes. Cytoplasmic localization oscillates diurnally

Background

Heterogeneous nuclear ribonucleoprotein D0 (HNRNPD) also known as AU-rich element RNA-binding protein 1 (AUF1) is a protein that in humans is encoded by the HNRNPD gene. It is mapped to 4q21.22. This gene belongs to the subfamily of ubiquitously expressed heterogeneous nuclear ribonucleoproteins (hnRNPs). The hnRNPs are nucleic acid binding proteins and they complex with heterogeneous nuclear RNA (hnRNA). These proteins are associated with pre-mRNAs in the nucleus and appear to influence pre-mRNA processing and other aspects of mRNA metabolism and transport. While all of the hnRNPs are present in the nucleus, some seem to shuttle between the nucleus and the cytoplasm. The hnRNP proteins have distinct nucleic acid binding properties. The protein encoded by this gene has two repeats of quasi-RRM domains that bind to RNAs. It localizes to both the nucleus and the cytoplasm. This protein is implicated in the regulation of mRNA stability. Alternative splicing of this gene results in four transcript variants.

Images

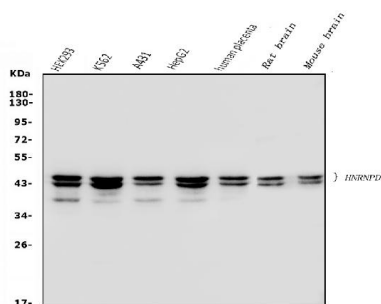


Figure 1. Western blot analysis of hnRNP D/AUF1/HNRNPD using anti-hnRNP D/AUF1/HNRNPD antibody (M09982-1). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions. Lane 1: human HEK293 whole cell lysates, Lane 2: human K562 whole cell lysates, Lane 3: human A431 whole cell lysates, Lane 4: human HEPG2 whole cell lysates, Lane 5: human placenta tissue lysates,

Lane 6: rat brain tissue lysates,
Lane 7: mouse brain tissue lysates.

After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA 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-hnRNP D/AUF1/HNRNPD antigen affinity purified monoclonal antibody (Catalog # M09982-1) 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 hnRNP D/AUF1/HNRNPD at approximately 43-45KD. The expected band size for hnRNP D/AUF1/HNRNPD is at 38KD.

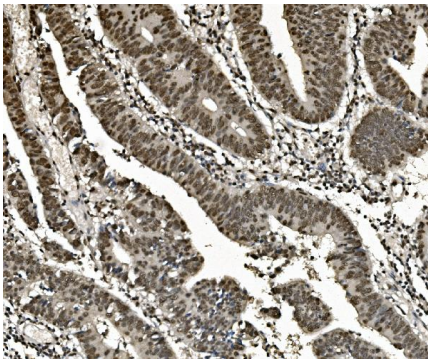


Figure 2. IHC analysis of hnRNP D/AUF1/HNRNPD using anti-hnRNP D/AUF1/HNRNPD antibody (M09982-1). hnRNP D/AUF1/HNRNPD was detected in paraffin-embedded section of human rectal cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 µg/ml mouse anti-hnRNP D/AUF1/HNRNPD Antibody (M09982-1) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

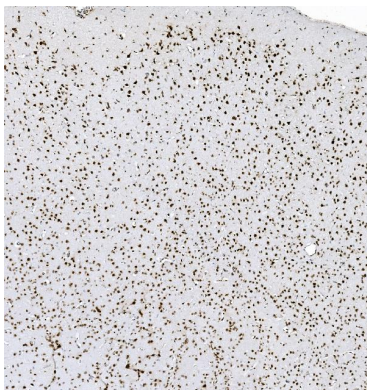


Figure 3. IHC analysis of hnRNP D/AUF1/HNRNPD using anti-hnRNP D/AUF1/HNRNPD antibody (M09982-1). hnRNP D/AUF1/HNRNPD was detected in paraffin-embedded section of rat brain tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 µg/ml mouse anti-hnRNP D/AUF1/HNRNPD Antibody (M09982-1) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

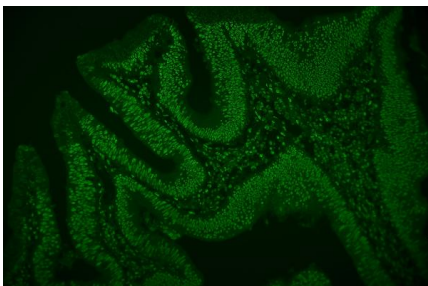


Figure 4. IF analysis of hnRNP D/AUF1/HNRNPD using anti-hnRNP D/AUF1/HNRNPD antibody (M09982-1). hnRNP D/AUF1/HNRNPD was detected in paraffin-embedded section of human rectal cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 4 µg/mL mouse anti-hnRNP D/AUF1/HNRNPD Antibody (M09982-1) overnight at 4°C. Biotin conjugated goat anti-mouse IgG (BA1001) was used as secondary antibody and incubated

for 30 minutes at 37°C. The tissue section was developed using DyLight®488 Conjugated Avidin (BA1128). The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.

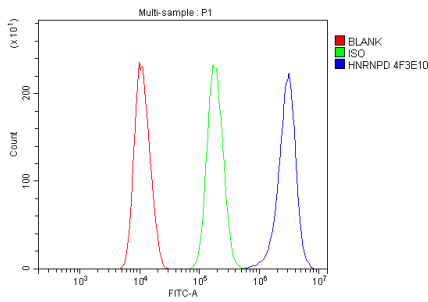


Figure 5. Flow Cytometry analysis of SiHa cells using anti-hnRNP D/AUF1/HNRNPD antibody (M09982-1). Overlay histogram showing SiHa cells stained with M09982-1 (Blue line).The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-hnRNP D/AUF1/HNRNPD Antibody (M09982-1, 1 µg/1x10⁶ cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-mouse IgG (BA1126, 5-10 µg/1x10⁶ cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was mouse IgG (1 µg/1x10⁶) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

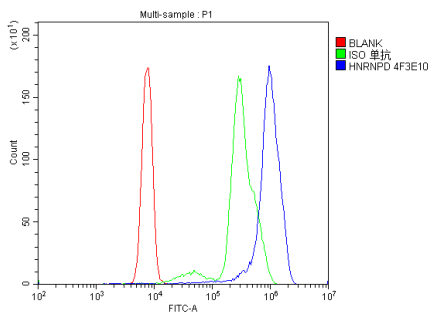


Figure 6. Flow Cytometry analysis of U937 cells using anti-hnRNP D/AUF1/HNRNPD antibody (M09982-1). Overlay histogram showing U937 cells stained with M09982-1 (Blue line).The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-hnRNP D/AUF1/HNRNPD Antibody (M09982-1, 1 µg/1x10⁶ cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-mouse IgG (BA1126, 5-10 µg/1x10⁶ cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was mouse IgG (1 µg/1x10⁶) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

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