

Anti-SMN1/2 Antibody Picoband™

Catalog Number: PB9398

About SMN1

This gene is part of a 500 kb inverted duplication on chromosome 5q13. This duplicated region contains at least four genes and repetitive elements which make it prone to rearrangements and deletions. The repetitiveness and complexity of the sequence have also caused difficulty in determining the organization of this genomic region. The telomeric and centromeric copies of this gene are nearly identical and encode the same protein. However, mutations in this gene, the telomeric copy, are associated with spinal muscular atrophy; mutations in the centromeric copy do not lead to disease. The centromeric copy may be a modifier of disease caused by mutation in the telomeric copy. The critical sequence difference between the two genes is a single nucleotide in exon 7, which is thought to be an exon splice enhancer. Note that the nine exons of both the telomeric and centromeric copies are designated historically as exon 1, 2a, 2b, and 3-8. It is thought that gene conversion events may involve the two genes, leading to varying copy numbers of each gene. The protein encoded by this gene localizes to both the cytoplasm and the nucleus. Within the nucleus, the protein localizes to subnuclear bodies called gems which are found near coiled bodies containing high concentrations of small ribonucleoproteins (snRNPs). This protein forms heteromeric complexes with proteins such as SIP1 and GEMIN4, and also interacts with several proteins known to be involved in the biogenesis of snRNPs, such as hnRNP U protein and the small nucleolar RNA binding protein. Multiple transcript variants encoding distinct isoforms have been described.

Overview

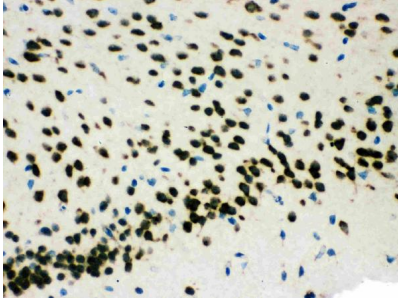
Product Name	Anti-SMN1/2 Antibody Picoband™
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-SMN1/2 Antibody Picoband™ catalog # PB9398. Tested in Flow Cytometry, IF, IHC, ICC, WB applications. This antibody reacts with Human, Mouse, Rat.
Application	Flow Cytometry, IF, IHC, ICC, WB
Clonality	Polyclonal
Formulation	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
Storage Instructions	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.
Host	Rabbit
Uniprot ID	Q16637

Technical Details

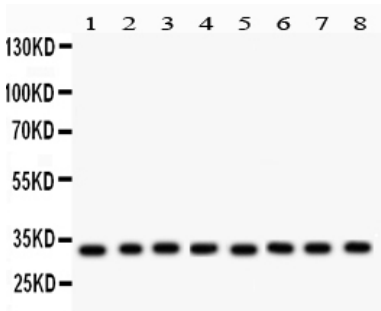
Immunogen	A synthetic peptide corresponding to a sequence at the N-terminus of human SMN1/2, identical to the related mouse and rat sequences.
Predicted Reactive Species	Hamster
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western

	blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P) and ICC.
Cross Reactivity	No cross-reactivity with other proteins.
Isotype	Rabbit IgG
Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Dilute the sample so that the expected range of concentrations fall within the detection range of this kit. If the expected range of concentration is unknown, a pilot test should be conducted to decide the optimal dilution ratio for your samples. Some PubMed article(s) citing the expression level of this target are as follows: Boster Bio's internal QC testing used: Western blot, 0.1-0.5ug/ml, Human, Mouse, Rat Immunohistochemistry (Paraffin-embedded Section), 0.5-1ug/ml, Human, Mouse, Rat, By Heat Immunocytochemistry/Immunofluorescence, 2ug/ml, Human Flow Cytometry, 1-3ug/1x10⁶ cells, Human

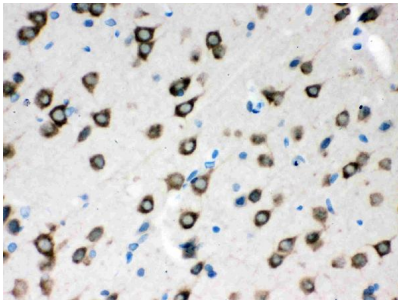
Anti-SMN1/2 Antibody Picoband™ (PB9398) Images



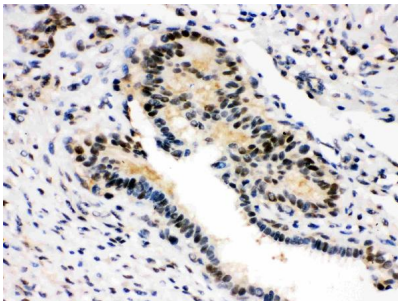
Anti-SMN1/2 Picoband antibody, PB9398, IHC(P)
IHC(P): Mouse Brain Tissue



Anti-SMN1/2 Picoband antibody, PB9398, Western blotting
All lanes: Anti SMN1/2(PB9398) at 0.5ug/ml
Lane 1: Rat Brain Tissue Lysate at 50ug
Lane 2: Mouse Brain Tissue Lysate at 50ug
Lane 3: Rat Liver Tissue Lysate at 50ug
Lane 4: Mouse Liver Tissue Lysate at 50ug
Lane 5: 293T Whole Cell Lysate at 40ug
Lane 6: SMMC Whole Cell Lysate at 40ug
Lane 7: HEPG2 Whole Cell Lysate at 40ug
Lane 8: HELA Whole Cell Lysate at 40ug
Predicted bind size: 32KD
Observed bind size: 32KD

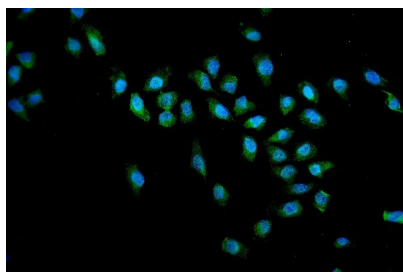


Anti-SMN1/2 Picoband antibody, PB9398, IHC(P)
IHC(P): Rat Brain Tissue



Anti-SMN1/2 Picoband antibody, PB9398, IHC(P)
IHC(P): Human Mammary Cancer Tissue

Figure 5. IF analysis of SMN1/2 using anti-SMN1/2 antibody (PB9398).
SMN1/2 was detected in immunocytochemical section of U2OS 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 2ug/mL rabbit anti-SMN1/2 Antibody



(PB9398) overnight at 4°C. DyLight®488 Conjugated Goat Anti-Rabbit IgG (BA1127) 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.

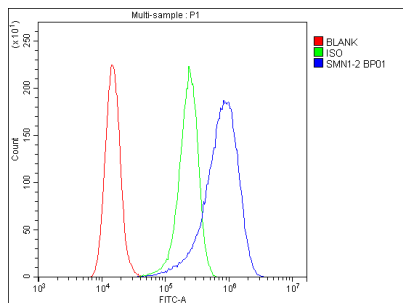


Figure 6. Flow Cytometry analysis of A431 cells using anti-SMN1/2 antibody (PB9398). Overlay histogram showing A431 cells stained with PB9398 (Blue line). The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-SMN1/2 Antibody (PB9398, 1ug/1x10⁶ cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-rabbit IgG (BA1127, 5-10ug/1x10⁶ cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was rabbit IgG (1ug/1x10⁶) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

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Anti-SMN1/2 Antibody TM