

Mouse anti-Human SMN1/2 Monoclonal Antibody | anti-SMN1/2 antibody

Anti-SMN1/2 Antibody (monoclonal, 3D10)

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA125159	Mouse	Human	Immunocytochemistry, Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

SMN1/2; Monoclonal Antibody; Anti-SMN1/2 Antibody (monoclonal; 3D10); Survival motor neuron protein; Component of gems 1; Gemin-1; SMN1; SMN; SMNT; SMN2; SMNC; Survival of motor neuron 1; telomeric/survival of motor neuron 2; centromeric; anti-SMN1/2 antibody

PRODUCT SPECIFICATIONS

Host	Mouse
Reactivity	Human
Clonality	Monoclonal
Isotype	IgG1
Clone Number	3D10
Specificity	No cross reactivity with other proteins.
Purity/Purification	Immunogen Affinity Purified
Form/Format	Lyophilized
Sequence Length	262
Applicable Applications for anti-SMN1/2 antibody	ICC (Immunocytochemistry), IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthetic peptide corresponding to a sequence at the N-terminus of human SMN1/2 (22-52aa RRGTGQSDSDIWDDTALIKAYDKAVASFKH), identical to the related mouse and rat sequences.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.
Relevant Detection Systems	It is recommended to use an Enhanced Chemiluminescent Kit with anti-Rabbit IgG for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit for IHC-P and ICC.
Preparation and Storage	Store at -20 degree C for one year. After reconstitution, at 4 degree C for one month. It can also be aliquotted and stored frozen at -20 degree C for a longer time. Avoid repeated freezing and thawing.

IMAGES



IHC (Immunohistochemistry)

Figure 4. IHC analysis of SMN1/2 using anti-SMN1/2 antibody (M03420-1). SMN1/2 was detected in immunocytochemical section of A431 cell. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml mouse anti-SMN1/2 Antibody (M03420-1) overnight at 4 degree C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37 degree C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) with DAB as the chromogen.



IHC (Immunohistochemistry)

Figure 3. IHC analysis of SMN1/2 using anti-SMN1/2 antibody (M03420-1). SMN1/2 was detected in paraffin-embedded section of human mammary cancer tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml mouse anti-SMN1/2 Antibody (M03420-1) overnight at 4 degree C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37 degree C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) with DAB as the chromogen.



IHC (Immunohistochemistry)

Figure 3. IHC analysis of SMN1/2 using anti-SMN1/2 antibody (M03420-1). SMN1/2 was detected in paraffin-embedded section of human mammary cancer tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1ug/ml mouse anti-SMN1/2 Antibody (M03420-1) overnight at 4 degree C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37 degree C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) with DAB as the chromogen.



WB (Western Blot)

Figure 1. Western blot analysis of SMN1/2 using anti-SMN1/2 antibody (M03420-1). 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 Hela whole cell lysates, Lane 2: human placenta tissue lysates, Lane 3: human SW620 whole cell lysates, Lane 4: human PANC-1 whole cell lysates, Lane 5: human HepG2 whole cell lysates, Lane 6: human A549 whole cell lysates, Lane 7: rat RH35 whole cell lysates, Lane 8: mouse HEPA1-6 whole cell 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-SMN1/2 antigen affinity purified monoclonal antibody at 0.5 ug/ml overnight at 4 degree C, then washed with TBS-0.1% Tween 3 times with 5 minutes each and probed with a Biotin Conjugated goat anti-mouse IgG 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 with Tanon 5200 system.

ADDITIONAL INFORMATION

Related Product Information for anti-SMN1/2 antibody

Description: Mouse IgG monoclonal antibody for SMN1/2 detection. Tested with WB, IHC-P, ICC in Human. Background: 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.

References

1. Blauw, H. M., Barnes, C. P., van Vught, P. W. J., van Rheenen, W., Verheul, M., Cuppen, E., Veldink, J. H., van den Berg, L. H. SMN1 gene duplications are associated with sporadic ALS. *Neurology* 78: 776-780, 2012. 2. Boda, B., Mas, C., Giudicelli, C., Nepote, V., Guimiot, F., Levacher, B., Zvara, A., Santha, M., LeGall, I., Simonneau, M. Survival motor neuron SMN1 and SMN2 gene promoters: identical sequences and differential expression in neurons and non-neuronal cells. *Europ. J. Hum. Genet.* 12: 729-737, 2004.

NCBI AND UNIPROT INFORMATION

NCBI GI #	4507091
NCBI GeneID	6606
NCBI Accession #	NP_000335.1
NCBI GenBank Nucleotide #	NM_000344.3
UniProt Accession #	Q16637 ; Q13119 ; Q549U5 ; Q96J51 ; A8K0V4
Molecular Weight	28,534 Da
NCBI Official Full Name	survival motor neuron protein isoform d
NCBI Official Synonym Full Names	survival of motor neuron 1, telomeric
NCBI Official Symbol	SMN1
NCBI Official Synonym Symbols	SMA; SMN; SMA1; SMA2; SMA3; SMA4; SMA@; SMNT; BCD541; GEMIN1; TDRD16A; T-BCD541

NCBI Protein Information	survival motor neuron protein
UniProt Protein Name	Survival motor neuron protein
UniProt Gene Name	SMN1
UniProt Synonym Gene Names	SMN; SMNT

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/monoclonal/smn1-2-antibody-clone-3d10-immunocytochemistry-immunohistochemistry-western-blot-elisa/125159>