

# Product Datasheet

## alpha-Smooth Muscle Actin Antibody (1A4/asm-1) - BSA Free NBP2-33006-0.1mg

Unit Size: 0.1 mg

Store at -20C.

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**NBP2-33006-0.1mg**

alpha-Smooth Muscle Actin Antibody (1A4/asm-1) - BSA Free

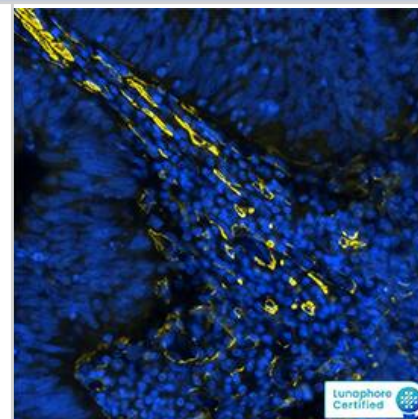
Product Information	
Unit Size	0.1 mg
Concentration	1.0 mg/ml
Storage	Store at -20C.
Clonality	Monoclonal
Clone	1A4/asm-1
Preservative	0.02% Sodium Azide
Isotype	IgG2a Kappa
Purity	Protein A purified
Buffer	PBS
Target Molecular Weight	42 kDa

Product Description	
Host	Mouse
Gene ID	59
Gene Symbol	ACTA2
Species	Human, Mouse, Rat, Porcine, Bovine, Canine, Chicken, Feline, Guinea Pig, Goat, Baboon, Monkey, Rabbit, Sheep
Reactivity Notes	Feline reactivity reported from a verified customer review.
Marker	Leiomyosarcoma Marker
Specificity/Sensitivity	Actin is a major component of the cytoskeleton and is present in most cell types. This MAb is highly specific to actin from smooth muscles. Its epitope lies in the first four N-terminal amino acids. This MAb does not stain cardiac or skeletal muscle; however, it does stain myofibroblasts and myoepithelial cells. This antibody could be used together with anti-muscle specific actin and myogenin in making a diagnosis of smooth muscle and skeletal muscle tumors. In most cases of rhabdomyosarcoma, this antibody yields negative results whereas anti-muscle specific actin and myogenin are positive. Leiomyosarcomas are positive only with anti-muscle specific actin and anti-smooth muscle actin and are negative with anti-myogenin.
Immunogen	Alpha-Smooth Muscle Actin Antibody (1A4/asm-1) is made to the N-Terminal decapeptide of Alpha smooth muscle isoform of actin and conjugated to KLH.

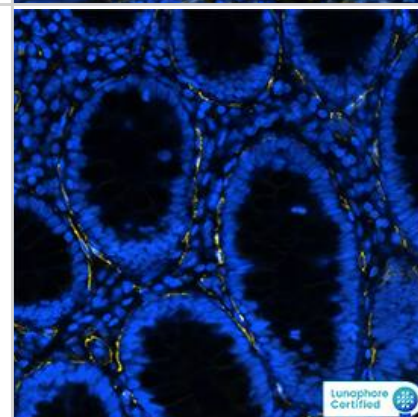
Product Application Details	
Applications	Western Blot, Simple Western, Flow Cytometry, Flow (Intracellular), Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Frozen, Immunohistochemistry-Paraffin, Immunoprecipitation, Multiplex Immunofluorescence
Recommended Dilutions	Western Blot 0.5-1ug/ml, Simple Western 10 ug/ml, Flow Cytometry 0.5-1ug/million cells, Immunohistochemistry 1:10-1:500, Immunocytochemistry/ Immunofluorescence 0.5-1ug/ml, Immunoprecipitation 0.5-1ug/500ug protein lysate, Immunohistochemistry-Paraffin 0.5-1.0ug/ml, Immunohistochemistry-Frozen 1:600, Flow (Intracellular), Multiplex Immunofluorescence 0.25ug/mL

## Images

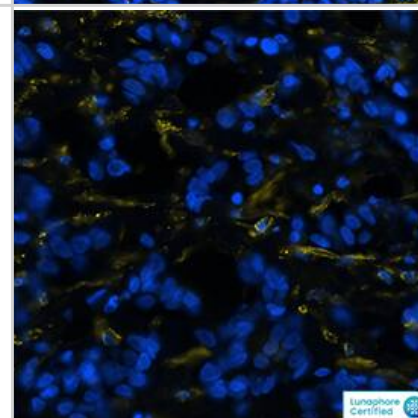
$\alpha$ -Smooth Muscle Actin was detected in immersion fixed paraffin-embedded sections of human colon using Mouse Anti-Human/Mouse/Rat  $\alpha$ -Smooth Muscle Actin Monoclonal Antibody (Novus Catalog # NBP2-33006) at 0.25ug/mL at 37 ° Celsius for 2 minutes. Before incubation with the primary antibody, tissue underwent an all-in-one dewaxing and antigen retrieval preprocessing using PreTreatment Module (PT Module) and Dewax and HIER Buffer H (pH 9). Tissue was stained using the Alexa Fluor™ 555 Goat anti-Mouse IgG Secondary Antibody at 1:100 at 37 ° Celsius for 2 minutes. (Yellow; Lunaphore Catalog # [DR555MS](#)) and counterstained with DAPI (blue; Lunaphore Catalog # [DR100](#)). Specific staining was localized to the cytoplasm and cytoskeleton. Protocol available in [COMET™ Panel Builder](#).



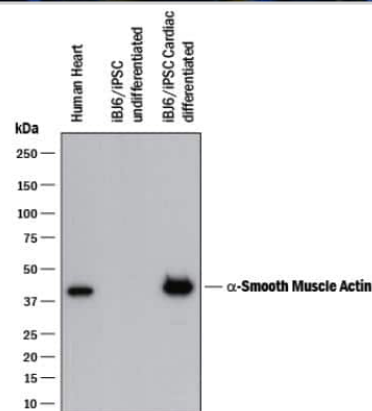
$\alpha$ -Smooth Muscle Actin was detected in immersion fixed paraffin-embedded sections of human colon using Mouse Anti-Human/Mouse/Rat  $\alpha$ -Smooth Muscle Actin Monoclonal Antibody (Novus Catalog # NBP2-33006) at 0.25ug/mL at 37 ° Celsius for 2 minutes. Before incubation with the primary antibody, tissue underwent an all-in-one dewaxing and antigen retrieval preprocessing using PreTreatment Module (PT Module) and Dewax and HIER Buffer H (pH 9). Tissue was stained using the Alexa Fluor™ 555 Goat anti-Mouse IgG Secondary Antibody at 1:100 at 37 ° Celsius for 2 minutes. (Yellow; Lunaphore Catalog # [DR555MS](#)) and counterstained with DAPI (blue; Lunaphore Catalog # [DR100](#)). Specific staining was localized to the cytoplasm and cytoskeleton. Protocol available in [COMET™ Panel Builder](#).



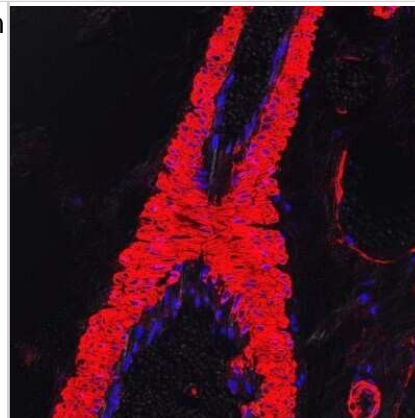
$\alpha$ -Smooth Muscle Actin was detected in immersion fixed paraffin-embedded sections of human breast cancer using Mouse Anti-Human/Mouse/Rat  $\alpha$ -Smooth Muscle Actin Monoclonal Antibody (Novus Catalog # NBP2-33006) at 0.25ug/mL at 37 ° Celsius for 2 minutes. Before incubation with the primary antibody, tissue underwent an all-in-one dewaxing and antigen retrieval preprocessing using PreTreatment Module (PT Module) and Dewax and HIER Buffer H (pH 9). Tissue was stained using the Alexa Fluor™ 555 Goat anti-Mouse IgG Secondary Antibody at 1:100 at 37 ° Celsius for 2 minutes. (Yellow; Lunaphore Catalog # [DR555MS](#)) and counterstained with DAPI (blue; Lunaphore Catalog # [DR100](#)). Specific staining was localized to the cytoplasm and cytoskeleton. Protocol available in [COMET™ Panel Builder](#).



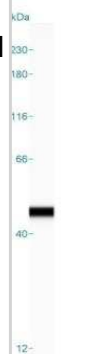
Western blot shows lysates of human heart tissue and iBJ6 human induced pluripotent stem cell line undifferentiated or cardiac differentiated. PVDF membrane was probed with 0.25 ug/mL of Mouse Anti-alpha-Smooth Muscle Actin Monoclonal Antibody (Catalog # NBP2-33006) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF018). The observed molecular weight was detected for alpha Smooth Muscle Actin at approximately 40 kDa (as indicated). This experiment was conducted under reducing conditions.



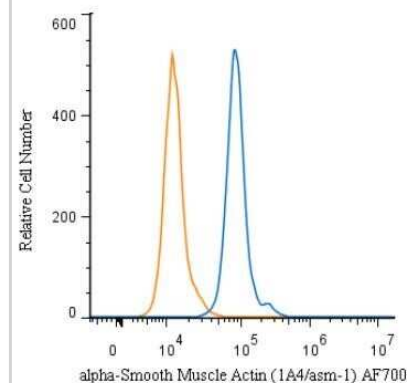
Feline tissue stained with alpha-Smooth Muscle Actin Antibody at dilution of 1:600. Vascular wall was stained. IHC image submitted by a verified customer review.



Simple Western lane view shows a specific band for an observed molecular weight at ~45 kDa for alpha-Smooth Muscle Actin in 0.2 mg/ml of h. Aorta lysate. This experiment was performed under reducing conditions using the 12-230 kDa separation system.

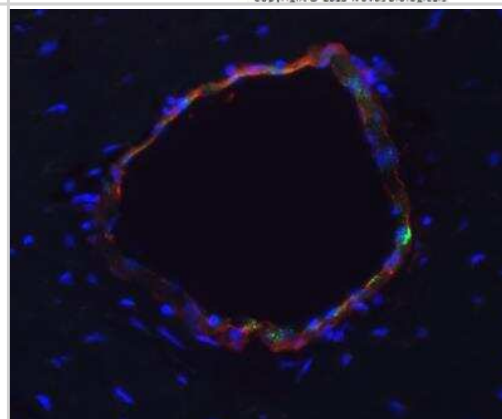


An intracellular stain was performed on HeLa cells with NBP2-34522AF700 (blue) and a matched isotype control (orange). Cells were fixed with 4% PFA and then permeabilized with 0.1% saponin. Cells were incubated in an antibody dilution of 10 ug/mL for 30 minutes at room temperature. Both antibodies were conjugated to Alexa Fluor 700.

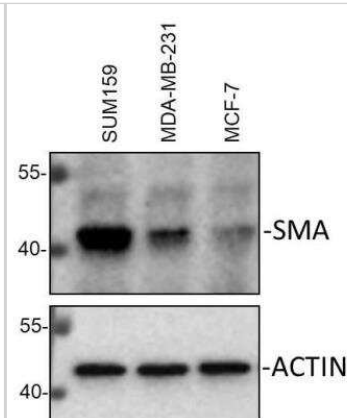


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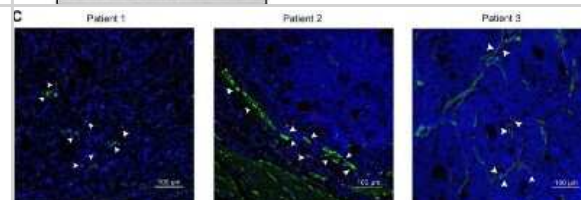
Canine brain/spinal cord section. Alpha-Smooth Muscle Actin Antibody (1A4/asm-1) staining in red. Endothelial cell marker in green. DAPI in blue. Alexa Fluor conjugated antibodies used for secondary antibodies. IHC image submitted by a verified customer review.



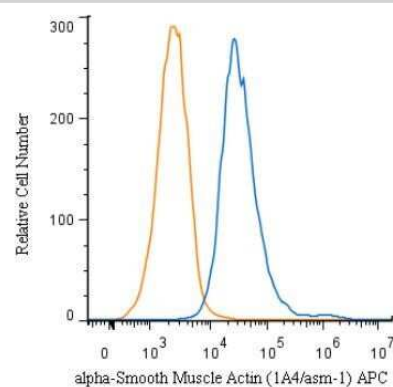
Whole cell lysates from SUM159, MDA-MB-231 and MCF-7 cells were loaded with 50 ug/lane. 10% SDS-PAGE. Alpha-Smooth Muscle Actin antibody (NBP2-33006) was used for primary antibody: 1:1000, 4C, overnight. Image from verified customer review.



M2 macrophage-related protein expression and the co-location of M2-macrophages and GC-MSCs within tumor tissues. Representative immunofluorescence images of the co-location of GC-MSCs (alpha-Smooth Muscle Actin; green) and M2-macrophages (CD204; red) in gastric cancer tissues detected by confocal microscopy. scale bar, 100 um. \*\*P < 0.01 vs. gastric cancer tissue. T: tumor; N: non-cancerous tissues. Image collected and cropped by CiteAb from the following publication (<https://www.nature.com/articles/s41419-019-2131-y>), licensed under a CC-BY license.

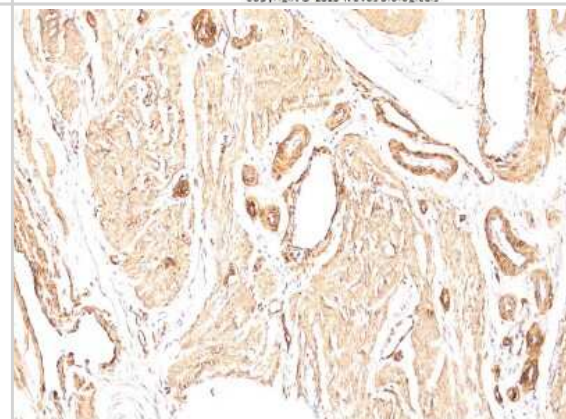


An intracellular stain was performed on HeLa cells with alpha-Smooth Muscle Actin Antibody (1A4/asm-1) NBP2-34522APC (blue) and a matched isotype control (orange). Cells were fixed with 4% PFA and then permeabilized with 0.1% saponin. Cells were incubated in an antibody dilution of 1 ug/mL for 30 minutes at room temperature. Both antibodies were conjugated to Allophycocyanin.

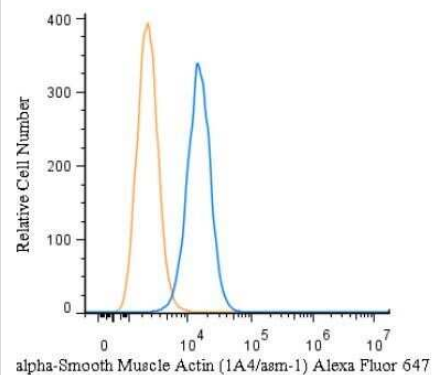


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Staining of human Leiomyosarcoma stained with the Azide and BSA-free version of alpha-Smooth Muscle Actin Antibody (1A4/asm-1).



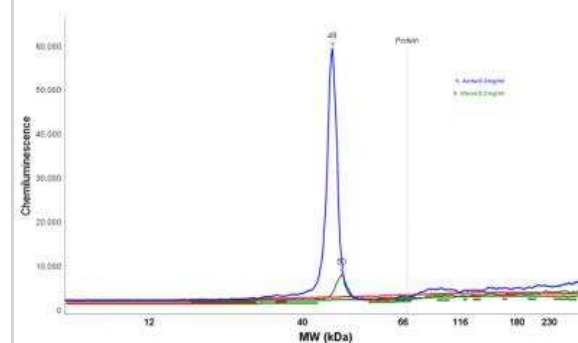
An intracellular stain was performed on HeLa cells with alpha-Smooth Muscle Actin Antibody (1A4/asm-1) NBP2-34522AF647 (blue) and a matched isotype control (orange). Cells were fixed with 4% PFA and then permeabilized with 0.1% saponin. Cells were incubated in an antibody dilution of 2.5 ug/mL for 30 minutes at room temperature. Both antibodies were conjugated to Alexa Fluor 647. Image from the Alexa Fluor 647 version of this antibody.



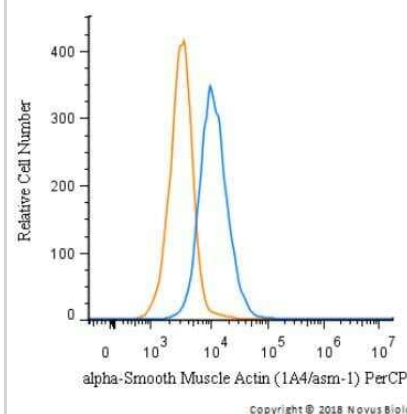
Simple Western lane view shows a specific band for an observed molecular weight for Smooth Muscle Actin in 0.2 mg/ml of h. Uterus lysate. This experiment was performed under reducing conditions using the 12-230 kDa separation system.



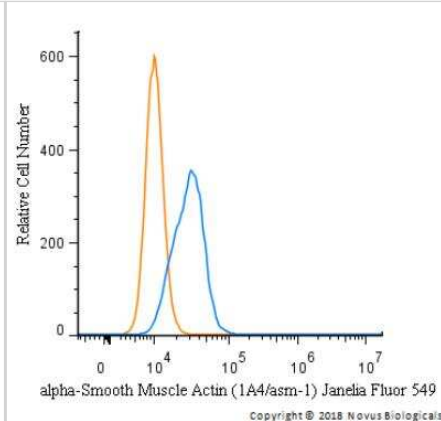
Electropherogram image of the corresponding Simple Western lane. alpha-Smooth Muscle Actin antibody was used at 10 ug/ml dilution of h. Aorta and h. Uterus lysates(s) respectively.



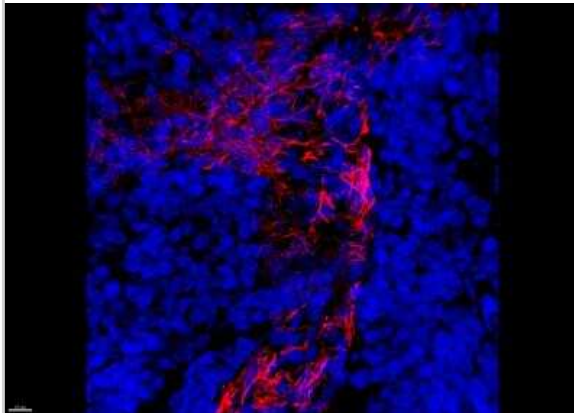
Flow Cytometry: alpha-Smooth Muscle Actin Antibody (1A4/asm-1) - BSA Free [NBP2-33006] - An intracellular stain was performed on HeLa cells with alpha-Smooth Muscle Actin Antibody (1A4/asm-1) NBP2-34522PCP (blue) and a matched isotype control (orange). Cells were fixed with 4% PFA and then permeabilized with 0.1% saponin. Cells were incubated in an antibody dilution of 10 ug/mL for 30 minutes at room temperature. Both antibodies were conjugated to PerCP.



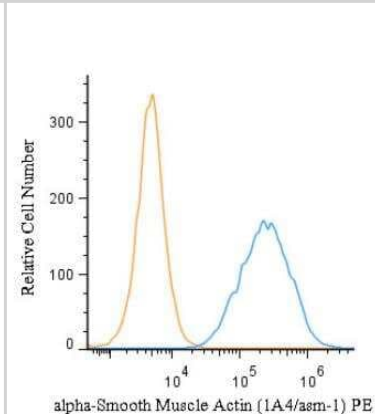
Flow Cytometry: alpha-Smooth Muscle Actin Antibody (1A4/asm-1) - BSA Free [NBP2-33006] - An intracellular stain was performed on HeLa cells with alpha Smooth Muscle Actin (1A4/asm-1) Antibody NBP2-34522JF549 (blue) and a matched isotype control (orange). Cells were fixed with 4% PFA and then permeabilized with 0.1% saponin. Cells were incubated in an antibody dilution of 5 ug/mL for 30 minutes at room temperature. Both antibodies were conjugated to Janelia Fluor 549.



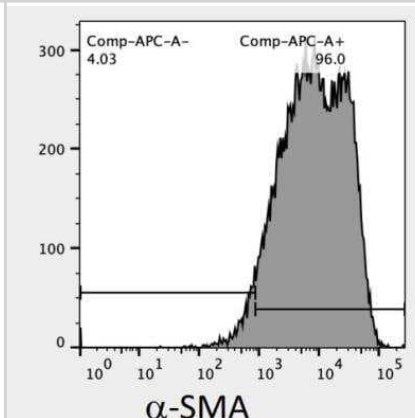
Flow Cytometry: alpha-Smooth Muscle Actin Antibody (1A4/asm-1) - BSA Free [NBP2-33006] - Human tonsil frozen tissue section stained for alpha-Smooth Muscle Actin (red) with the Janelia Fluor 549 conjugate of the Azide and BSA-Free version of alpha-Smooth Muscle Actin Antibody (1A4/asm-1), and counterstained with DAPI (blue). Image from verified customer review.



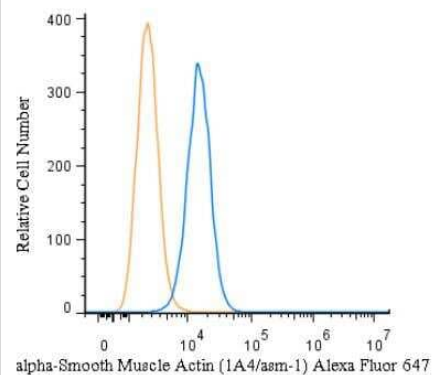
Flow Cytometry: alpha-Smooth Muscle Actin Antibody (1A4/asm-1) - BSA Free [NBP2-33006] - An intracellular stain was performed on HeLa cells with alpha-Smooth Muscle Actin Antibody (1A4/asm-1) NBP2-34522PE (blue) and a matched isotype control (orange). Cells were fixed with 4% PFA and then permeabilized with 0.1% saponin. Cells were incubated in an antibody dilution of 2.5 ug/mL for 30 minutes at room temperature. Both antibodies were conjugated to phycoerythrin.



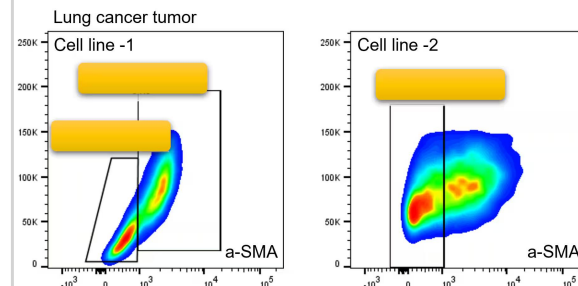
Flow Cytometry: alpha-Smooth Muscle Actin Antibody (1A4/asm-1) - BSA Free [NBP2-33006] - alpha-Smooth Muscle Actin expression in colorectal tumor cells. Using Allophycocyanin conjugated version of antibody (NBP2-34522APC). Image from verified customer review.



Flow Cytometry: alpha-Smooth Muscle Actin Antibody (1A4/asm-1) - BSA Free [NBP2-33006] - An intracellular stain was performed on HeLa cells with alpha-Smooth Muscle Actin Antibody (1A4/asm-1) NBP2-34522AF647 (blue) and a matched isotype control (orange). Cells were fixed with 4% PFA and then permeabilized with 0.1% saponin. Cells were incubated in an antibody dilution of 2.5 ug/mL for 30 minutes at room temperature. Both antibodies were conjugated to Alexa Fluor 647.



Flow Cytometry: alpha-Smooth Muscle Actin Antibody (1A4/asm-1) - BSA Free [NBP2-33006] - Analysis of alpha-Smooth Muscle Actin Antibody (1A4/asm-1) [Alexa Fluor® 647] (Catalog Number: NBP2-34522AF647) using two lung cancer cell lines to acquire the subcutaneous tumors. MMT status of macrophages was then analyzed. Image from a verified customer review.





## Publications

JJ Wu, ZL Sun, SY Liu, ZH Chen, ZD Yuan, ML Zou, YY Teng, YY Li, DY Guo, FL Yuan The ASIC3-M-CSF-M2 macrophage-positive feedback loop modulates fibroblast-to-myofibroblast differentiation in skin fibrosis pathogenesis *Cell Death & Disease*, 2022-06-06;13(6):527. 2022-06-06 [PMID: 35661105]

Brooke A DeRosa, Shaina A Simon, Christina A Velez, Jeffery M Vance, Margaret A Pericak-Vance, Derek M Dykxhoorn Generation of two iPSC lines (UMi038-A & UMi039-A) from siblings bearing an Alzheimer's disease-associated variant in SORL1. *Stem cell research* 2022-07-01 [PMID: 35671596]

Wei Hou, Shumin Yin, Pengpeng Li, Ludan Zhang, Tiange Chen, Dongxia Qin, Atta UI Mustafa, Caijie Liu, Miaomiao Song, Cheng Qiu, Xiaoqing Xiong, Juejin Wang Aberrant splicing of Ca V 1.2 calcium channel induced by decreased Rbfox1 enhances arterial constriction during diabetic hyperglycemia *Cellular and Molecular Life Sciences* 2024-04-04 [PMID: 38575795]

Liu F, Wang L, Zhai X et al. A multi-functional double cross-linked chitosan hydrogel with tunable mechanical and antibacterial properties for skin wound dressing *Carbohydrate Polymers* 2023-12-01 [PMID: 37839832] (IHC-P, Rat)

Gerwinn T, Salemi S, Schori LJ et al. Improved contractile potential in detrusor microtissues from pediatric patients with end stage lower urinary tract dysfunction *Frontiers in Cell and Developmental Biology* 2022-10-04 [PMID: 36268506] (Simple Western)

Chemaly M, Marlevi D, Iglesias M et al. Biliverdin Reductase B Is a Plasma Biomarker for Intraplaque Hemorrhage and a Predictor of Ischemic Stroke in Patients with Symptomatic Carotid Atherosclerosis *Biomolecules* 2023-05-24 [PMID: 37371462] (IHC-P, Mouse)

Hiver S, Shimizu-Mizuno N, Ikawa Y et al. Gse1, a component of the CoREST complex, is required for placenta development in the mouse *Developmental biology* 2023-04-04 [PMID: 37019373] (IHC-Fr, Mouse)

Siewiera J, McIntyre TI, Cautivo KM et al. Circumvention of luteolysis reveals parturition pathways in mice dependent upon innate type 2 immunity *Immunity* 2023-01-24 [PMID: 36750100]

Salemi S, Schori L, Gerwinn T et al. Myostatin Overexpression and Smad Pathway in Detrusor Derived from Pediatric Patients with End-Stage Lower Urinary Tract Dysfunction *International Journal of Molecular Sciences* 2023-02-24 [PMID: 36901894] (IHC-P, Human)

Goncalves AN, Moura RS, Correia-Pinto J, Nogueira-Silva C Intraluminal chloride regulates lung branching morphogenesis: involvement of PIEZO1/PIEZO2 *Respiratory research* 2023-02-05 [PMID: 36740669] (WB, Rat)

Chen JH, Wu PT, Chyau CC et al. The Nephroprotective Effects of Hibiscus sabdariffa Leaf and Ellagic Acid in Vitro and in Vivo Models of Hyperuricemic Nephropathy *Journal of agricultural and food chemistry* 2022-12-23 [PMID: 36562602]

Xu Y, Lai L, Chen Z et al. Scleral Remolding-Related Gene Expression After Scleral Collagen Cross-Linking Using Ultraviolet A and Riboflavin in Myopic Guinea Pig Model *Current eye research* 2022-12-15 [PMID: 36519626]

More publications at <http://www.novusbio.com/NBP2-33006>





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General: novus@novusbio.com

### **Products Related to NBP2-33006-0.1mg**

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HAF007	Goat anti-Mouse IgG Secondary Antibody [HRP]
NB720-B	Rabbit anti-Mouse IgG (H+L) Secondary Antibody [Biotin]
NBP1-96981-0.5mg	Mouse IgG2a Kappa Isotype Control (M2AK)
NBP2-34522AF647	alpha-Smooth Muscle Actin Antibody (1A4/asm-1) [Alexa Fluor® 647]

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### **Limitations**

This product is for research use only and is not approved for use in humans or in clinical diagnosis. Primary Antibodies are guaranteed for 1 year from date of receipt.

For more information on our 100% guarantee, please visit [www.novusbio.com/guarantee](http://www.novusbio.com/guarantee)

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