Product Datasheet

GAPDH Antibody (13H12) - BSA Free
NBP2-27103

Unit Size: 0.1 mg

Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.

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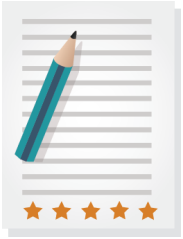
Updated 10/21/2025 v.20.1



NBP2-27103

GAPDH Antibody (13H12) - BSA Free

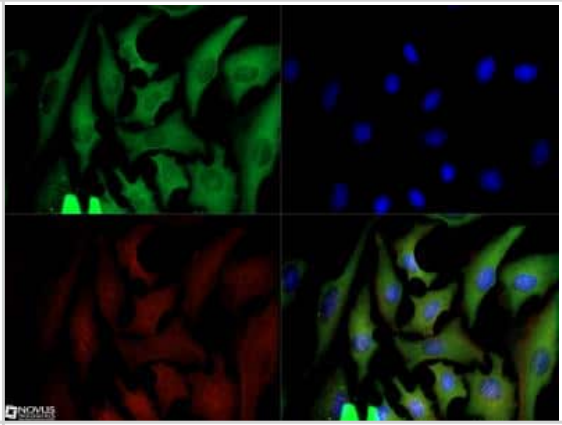
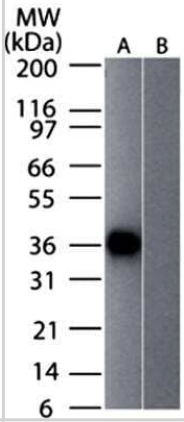
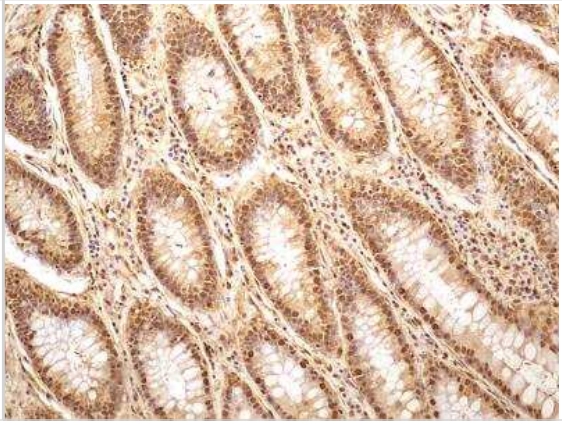
Product Information	
Unit Size	0.1 mg
Concentration	1.0 mg/ml
Storage	Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.
Clonality	Monoclonal
Clone	13H12
Preservative	0.02% Sodium Azide
Isotype	IgG1 Kappa
Purity	Protein G purified
Buffer	PBS
Target Molecular Weight	36 kDa

Product Description	
Description	Novus Biologicals Mouse GAPDH Antibody (13H12) - BSA Free (NBP2-27103) is a monoclonal antibody validated for use in IHC, WB, ICC/IF and Simple Western. Anti-GAPDH Antibody: Cited in 35 publications. All Novus Biologicals antibodies are covered by our 100% guarantee.
Host	Mouse
Gene ID	2597
Gene Symbol	GAPDH
Species	Human, Mouse, Rat, Drosophila, Monkey, Primate, Sheep
Reactivity Notes	Based upon 91% sequence similarity with immunogen, this antibody is predicted to react with Guinea Pig, Sheep, Squirrel, Porcine/Pig, Ferret, Canine/Dog/Cat, Bovine, Reptile / Rattlesnake and several other species. Immunogen shows 82% similarity to Xenopus and Zebrafish. Rat, sheep, and monkey reactivity reported in scientific literature (PMID: 24796753, PMID: 27618403, and PMID: 24462973 respectively).
Marker	Cytosolic Marker
Immunogen	Amino acids between 275 and 325 of glyceraldehyde 3-phosphate dehydrogenase protein were used as the immunogen for this GAPDH antibody.

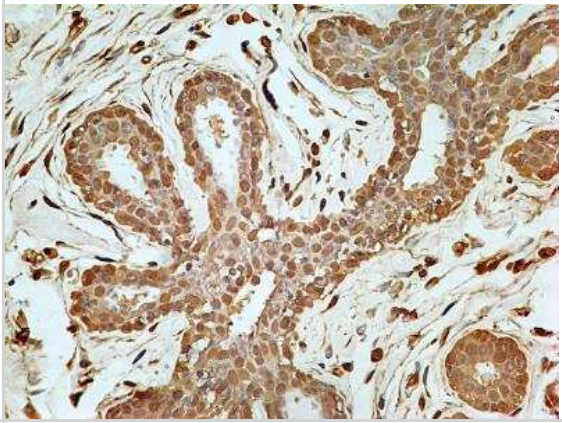
Product Application Details	
Applications	Western Blot, Simple Western, Immunohistochemistry-Paraffin, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry
Recommended Dilutions	Western Blot 0.25 - 1 ug/ml, Simple Western 1:25, Immunohistochemistry 5 ug/ml, Immunocytochemistry/ Immunofluorescence 1:10, Immunohistochemistry-Paraffin 5 ug/ml

Application Notes	GAPDH is a widely used loading control for quantitative Western blotting. In IHC-P, the staining of formalin-fixed tissues is enhanced by boiling tissue sections in 10 mM sodium citrate buffer, pH 6.0 for 10-20 min followed by cooling at RT for 20 min. In Simple Western only 10 - 15 uL of the recommended dilution is used per data point. See Simple Western Antibody Database for Simple Western validation: Tested in HeLa lysate 0.1 mg/mL, separated by Size, antibody dilution of 1:25, apparent MW was 44 kDa. Separated by Size-Wes, Sally Sue/Peggy Sue. WB reported in a verified customer review.

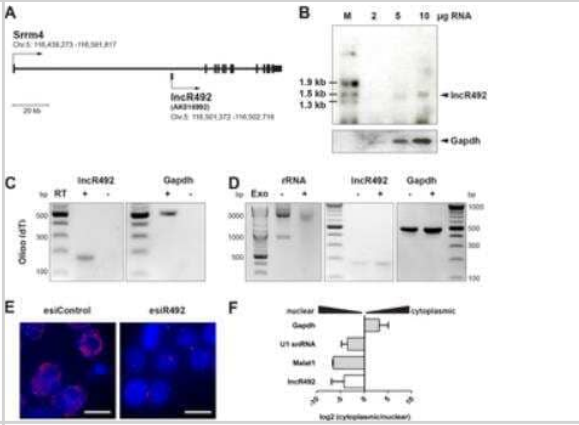
Images

Immunocytochemistry/Immunofluorescence: GAPDH Antibody (13H12) [NBP2-27103] - GAPDH antibody was tested in HeLa cells with Dylight 488 (green). Nuclei and alpha-tubulin were counterstained with DAPI (blue) and Dylight 550 (red). A dilution of 1:10 was used. Image objective 40x.	
Western Blot: GAPDH Antibody (13H12) [NBP2-27103] - WB detection of GAPDH protein (theoretical molecular weight: 36 kDa) in HeLa cells lysate using GAPDH antibody (clone 13H12) in (A) the absence and (B) the presence of immunizing peptide.	
Immunohistochemistry-Paraffin: GAPDH Antibody (13H12) [NBP2-27103] - IHC-P detection GAPDH protein in a formalin-fixed paraffin-embedded section of human rectal carcinoma tissue using GAPDH antibody (clone 13H12) at 5 ug/ml concentration.	

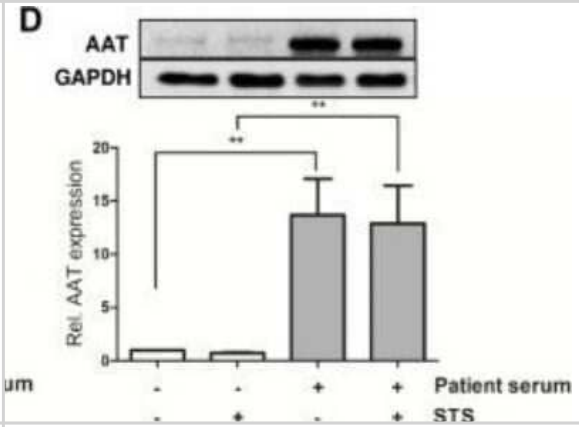
Immunohistochemistry-Paraffin: GAPDH Antibody (13H12) [NBP2-27103] - IHC-P detection GAPDH protein in a formalin-fixed paraffin-embedded section of normal human breast tissue using GAPDH antibody (clone 13H12) at 5 ug/ml concentration.



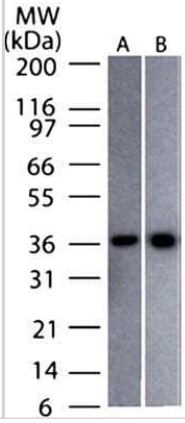
Western Blot: GAPDH Antibody (13H12) [NBP2-27103] - Characterization of lncR492. (B) Northern blot of lncR494 using increasing amounts of loaded total. Black arrow signifies lncR492-specific signal at approximately 1400 bp. A probe targeting Gapdh mRNA served as the loading control. (D) RT-PCR analysis of lncR492 and Gapdh expression. RNA extract was treated with a 5'-phosphate-dependent exonuclease, resulting in a degradation of f.ex. ribosomal RNA. Citation: Winzi M, Casas Vila N, Paszkowski-Rogacz M, Ding L, Noack S, Theis M, et al. (2018) The long noncoding RNA lncR492 inhibits neural differentiation of murine embryonic stem cells. PLoS ONE 13(1): e0191682. https://doi.org/10.1371/journal.pone.0191682

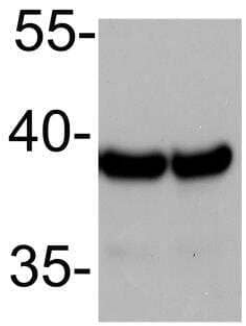
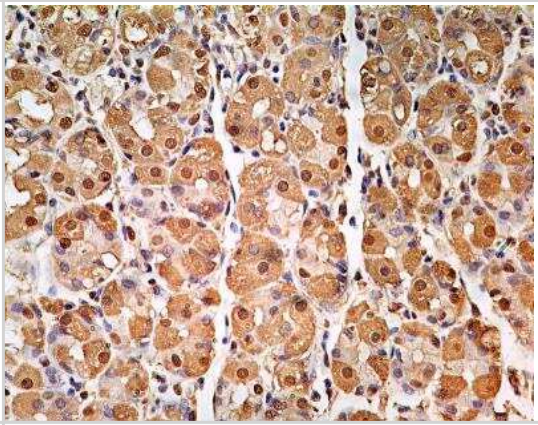
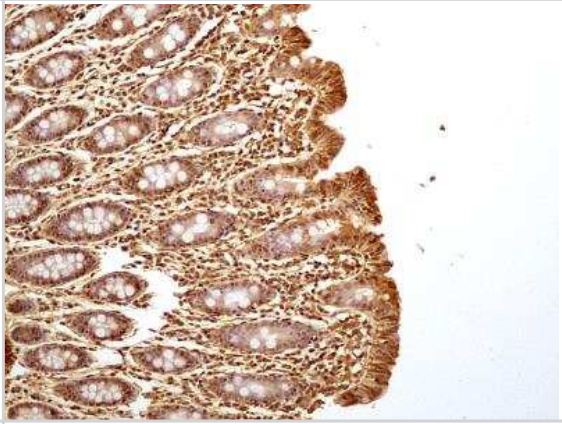
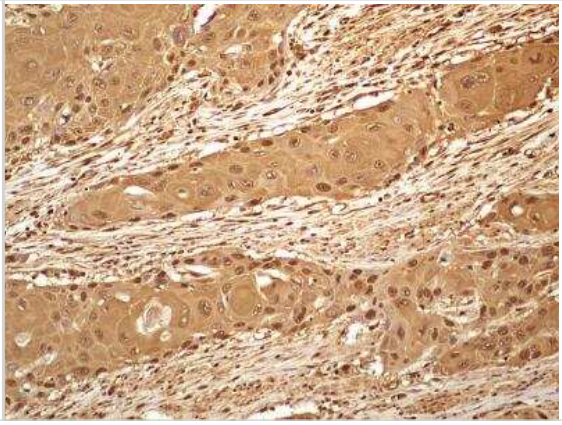


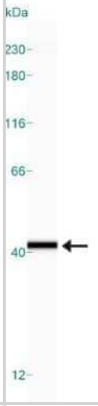
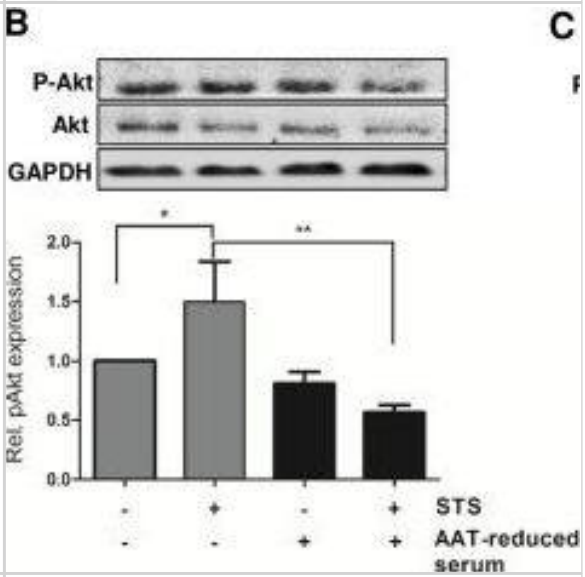
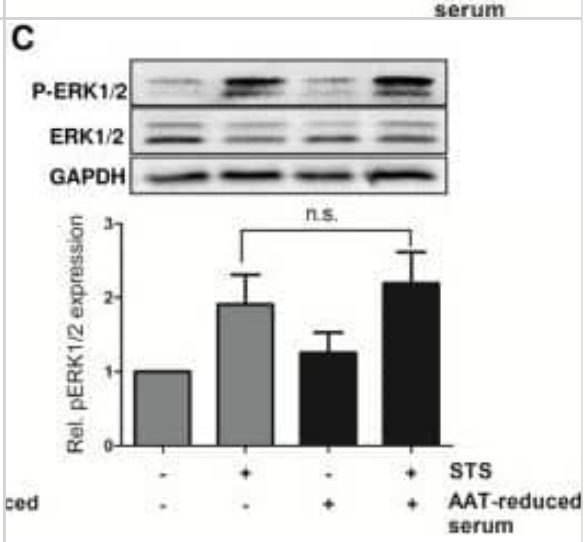
Western Blot: GAPDH Antibody (13H12) [NBP2-27103] - Serum from trauma patients induces intrinsic apoptosis resistance by up-regulating AAT expression in neutrophils. AAT protein expression was analyzed in neutrophils after 18 h of culture by western blot analysis. Relative expression was quantified vs. GAPDH expression. One representative blot of five independent experiments is depicted. **p<0.01 (one-way ANOVA with Newman keuls post-hoc test). Image collected and cropped by CiteAb from the following publication (https://dx.plos.org/10.1371/journal.pone.0177450), licensed under a CC-BY license.



Western Blot: GAPDH Antibody (13H12) [NBP2-27103] - WB detection of GAPDH protein (theoretical molecular weight 36 kDa) in lysates of Mouse cell lines (A) NIH 3T3 (B) RAW 264.7 using GAPDH antibody (clone 13H12) at a concentration of 0.25 ug/ml.



Western Blot: GAPDH Antibody (13H12) [NBP2-27103] - analysis of GAPDH in HeLa and HEK 293 cells (25ug/lane) using anti-GAPDH antibody. Image from verified customer review.	
Immunohistochemistry-Paraffin: GAPDH Antibody (13H12) [NBP2-27103] - IHC-P detection GAPDH protein in a formalin-fixed paraffin-embedded section of normal human stomach tissue using GAPDH antibody (clone 13H12) at 5 ug/ml concentration.	
Immunohistochemistry-Paraffin: GAPDH Antibody (13H12) [NBP2-27103] - IHC-P detection GAPDH protein in a formalin-fixed paraffin-embedded section of human colon tissue using GAPDH antibody (clone 13H12) at 5 ug/ml concentration.	
Immunohistochemistry-Paraffin: GAPDH Antibody (13H12) [NBP2-27103] - IHC-P detection GAPDH protein in a formalin-fixed paraffin-embedded tissue section of human esophageal squamous cell carcinoma (SCC) using GAPDH antibody (clone 13H12) at 5 ug/ml concentration.	

Simple Western: GAPDH Antibody (13H12) [NBP2-27103] - GAPDH/G3PDH Antibody (13H12) [NBP2-27103] - Simple Western lane view shows a specific band for GAPDH in 0.1 mg/ml of HeLa lysate. This experiment was performed under reducing conditions using the 12-230 kDa separation system.	
Western Blot: GAPDH Antibody (13H12) - BSA Free [NBP2-27103] - Effect of AAT on Mcl-1 phosphorylation, the activity of MAP kinases & caspases.Neutrophils from healthy volunteers (2.5 × 106/ml) were cultured in medium supplemented with patient serum (3 mg protein/ml; 1%) & those containing low levels of AAT (AAT-reduce serum; 1%) in the presence of STS (0.2 µM). After 3 h, the expression of pMcl-1 (A, n = 7), pAkt (B, n = 8) & pERK1/2 (C, n = 10) were analyzed by western blot. Expression levels of the phosphorylated proteins were normalized to that of the unphosphorylated forms. GAPDH was used as loading control. One representative blot is displayed. *p<0.05; **p<0.01; n.s. = not significant. D. After 4 h of incubation the activities of caspase-9 & caspase-3/-7 were quantified. Results are presented as means ± SEM of eight independent experiments. No significant differences were found (one-way ANOVA with Newman keuls post-hoc test). Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/28493974), licensed under a CC-BY license. Not internally tested by Novus Biologicals.	
Western Blot: GAPDH Antibody (13H12) - BSA Free [NBP2-27103] - Effect of AAT on Mcl-1 phosphorylation, the activity of MAP kinases & caspases.Neutrophils from healthy volunteers (2.5 × 106/ml) were cultured in medium supplemented with patient serum (3 mg protein/ml; 1%) & those containing low levels of AAT (AAT-reduce serum; 1%) in the presence of STS (0.2 µM). After 3 h, the expression of pMcl-1 (A, n = 7), pAkt (B, n = 8) & pERK1/2 (C, n = 10) were analyzed by western blot. Expression levels of the phosphorylated proteins were normalized to that of the unphosphorylated forms. GAPDH was used as loading control. One representative blot is displayed. *p<0.05; **p<0.01; n.s. = not significant. D. After 4 h of incubation the activities of caspase-9 & caspase-3/-7 were quantified. Results are presented as means ± SEM of eight independent experiments. No significant differences were found (one-way ANOVA with Newman keuls post-hoc test). Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/28493974), licensed under a CC-BY license. Not internally tested by Novus Biologicals.	

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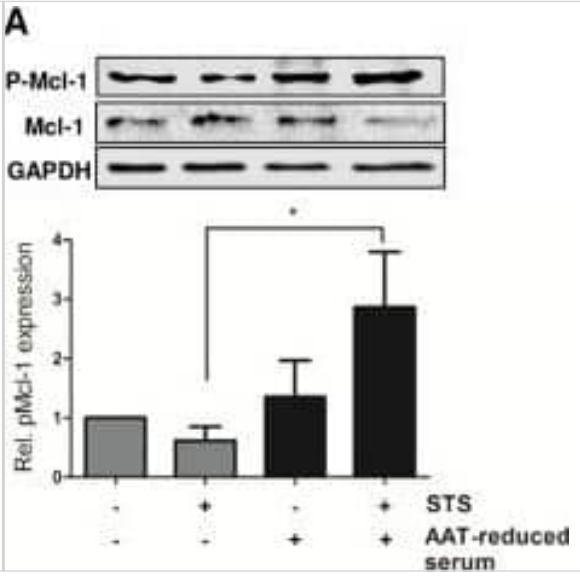

Publications

Day P, Thompson C, Weisberg A et al. The COPII Transport Complex Participates in HPV16 Infection Viruses 2025-04-25 [PMID: 40431628]

Taday R, Jungbluth P, Zensen S et al. BMP-2-Driven Osteogenesis: A Comparative Analysis of Porcine BMSCs and ASCs and the Role of TGF-β and FGF Signaling. Biology 2025-05-26 [PMID: 40563862]

Guo D, Liu S, Zhang J et Al. Prickle1-driven basement membrane deposition of the iPSC-derived embryoid bodies is separable from the establishment of apicobasal polarity Cell Prolif 2024-01-07 [PMID: 38185785]

Kate WD, Fanta M, Weinfeld M. et Al. Loss of the DNA repair protein, polynucleotide kinase/phosphatase, activates the type 1 interferon response independent of ionizing radiation Nucleic Acids Res 2024-09-09 [PMID: 39087523]

Vanda Balint, Mina Peric, Sanja Dacic, Danijela Stanisavljevic Ninkovic, Jelena Marjanovic, Jelena Popovic, Milena Stevanovic, Andrijana Lazic The Role of SOX2 and SOX9 Transcription Factors in the Reactivation-Related Functional Properties of NT2/D1-Derived Astrocytes. Biomedicines 2024-04-03 [PMID: 38672150]

Wang C, Terrigno M, Li J et al. Increased G3BP2-Tau interaction in tauopathies is a natural defense against Tau aggregation Neuron 2023-06-23 [PMID: 37385246]

Lin X, Fu B, Xiong Y et al. Unconventional secretion of unglycosylated ORF8 is critical for the cytokine storm during SARS-CoV-2 infection PLoS pathogens 2023-01-01 [PMID: 36689483] (WB)

Venkatramanan, S, Ibar, C Et al. TRIP6 is required for tension at adherens junctions. J Cell Sci 2021-03-11 [PMID: 33558314] (IF/IHC, Mouse)

Grotheer V, Skrynecki N, Oezel L et al. Osteogenic differentiation of human mesenchymal stromal cells and fibroblasts differs depending on tissue origin and replicative senescence Scientific reports 2021-06-07 [PMID: 34099837] (WB, Human)

Krassovka JM, Suschek CV, Prost M et al. The impact of non-toxic blue light (453 nm) on cellular antioxidative capacity, TGF-beta 1 signaling, and myofibrogenesis of human skin fibroblasts J. Photochem. Photobiol. B, Biol. 2020-07-06 [PMID: 32659647] (WB, Human)

Srinivas C, Ramaiah MJ, Lavanya A et al Novel EPE Analogue Modulates Expression of Angiogenesis Associated microRNAs and Regulates Cell Proliferation by Targeting STAT3 in Breast Cancer PLoS ONE 2015-11-10 [PMID: 26551008] (WB, Human)

Modi, A;Singh, M;Gutti, G;Shanker, OR;Singh, VK;Singh, S;Singh, SK;Pradhan, S;Narayan, G; Benzothiazole derivative bearing amide moiety induces p53-mediated apoptosis in HPV16 positive cervical cancer cells Invest New Drugs 2019-08-20 [PMID: 31432292] (WB, Human)

More publications at http://www.novusbio.com/NBP2-27103

Procedures

Western Blot Protocol for GAPDH Antibody (NBP2-27103)
Western Blot Protocol

1. Perform SDS-PAGE on samples to be analyzed, loading 10-25 ug of total protein per lane.
2. Transfer proteins to PVDF membrane according to the instructions provided by the manufacturer of the membrane and transfer apparatus.
3. Stain the membrane with Ponceau S (or similar product) to assess transfer success, and mark molecular weight standards where appropriate.
4. Rinse the blot TBS -0.05% Tween 20 (TBST).
5. Block the membrane in 5% Non-fat milk in TBST (blocking buffer) for at least 1 hour.
6. Wash the membrane in TBST three times for 10 minutes each.
7. Dilute primary antibody in blocking buffer and incubate overnight at 4C with gentle rocking.
8. Wash the membrane in TBST three times for 10 minutes each.
9. Incubate the membrane in diluted HRP conjugated secondary antibody in blocking buffer (as per manufacturer's instructions) for 1 hour at room temperature.
10. Wash the blot in TBST three times for 10 minutes each (this step can be repeated as required to reduce background).
11. Apply the detection reagent of choice in accordance with the manufacturer's instructions.

Immunocytochemistry/ Immunofluorescence Protocol for GAPDH Antibody (NBP2-27103)
Immunocytochemistry Protocol

Culture cells to appropriate density in 35 mm culture dishes or 6-well plates.

1. Remove culture medium and wash the cells briefly in PBS. Add 4% paraformaldehyde to the dish and fix at room temperature for 10 minutes.
2. Remove the paraformaldehyde and wash the cells in PBS.
3. Permeabilize the cells with 0.1% Triton X100 or other suitable detergent for 2 min.
4. Remove the permeabilization buffer and wash three times for 5 minutes each in PBS. Be sure to not let the specimen dry out.
5. To block nonspecific antibody binding, incubate in 10% normal goat serum from 1 hour to overnight at room temperature.
6. Add primary antibody at appropriate dilution and incubate overnight at 4C.
7. Remove primary antibody and replace with PBS. Wash three times for 5 minutes each.
8. Add secondary antibody at appropriate dilution. Incubate for 1 hour at room temperature.
9. Remove secondary antibody and replace with PBS. Wash three times for 5 minutes each.
10. Counter stain DNA with DAPI if required.

Immunohistochemistry-Paraffin Protocol for GAPDH Antibody (NBP2-27103)
Immunohistochemistry-Paraffin Embedded Sections

Antigen Unmasking:
Bring slides to a boil in 10 mM sodium citrate buffer (pH 6.0) then maintain at a sub-boiling temperature for 10 minutes. Cool slides on bench-top for 30 minutes (keep slides in the sodium citrate buffer at all times).

Staining:
1. Wash sections in deionized water three times for 5 minutes each.
2. Wash sections in PBS for 5 minutes.
3. Block each section with 100-400 ul blocking solution (1% BSA in PBS) for 1 hour at room temperature.
4. Remove blocking solution and add 100-400 ul diluted primary antibody. Incubate overnight at 4 C.
5. Remove antibody solution and wash sections in wash buffer three times for 5 minutes each.
6. Add 100-400 ul HRP polymer conjugated secondary antibody. Incubate 30 minutes at room temperature.
7. Wash sections three times in wash buffer for 5 minutes each.
8. Add 100-400 ul DAB substrate to each section and monitor staining closely.
9. As soon as the sections develop, immerse slides in deionized water.
10. Counterstain sections in hematoxylin.
11. Wash sections in deionized water two times for 5 minutes each.
12. Dehydrate sections.
13. Mount coverslips.

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Products Related to NBP2-27103

NBP2-30234	Human Multi-tissue Tissue MicroArray (Cancer)
NBP2-33376H	Blue Marker Antibody (6F4-F6) [HRP]
HAF007	Goat anti-Mouse IgG Secondary Antibody [HRP]
NB7539	Goat anti-Mouse IgG (H+L) Secondary Antibody [HRP]
NBP1-43319-0.5mg	Mouse IgG1 Kappa Isotype Control (P3.6.2.8.1)

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.

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