Product Datasheet

beta Amyloid Antibody (MOAB-2) - BSA Free
NBP2-13075

Unit Size: 0.1 ml

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

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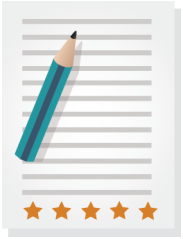
Updated 9/11/2024 v.20.1



NBP2-13075

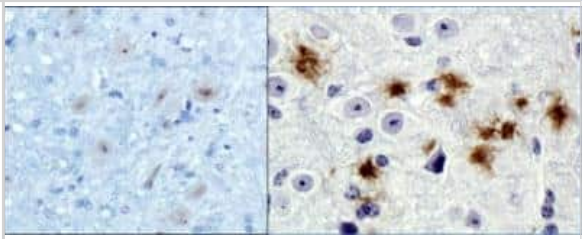
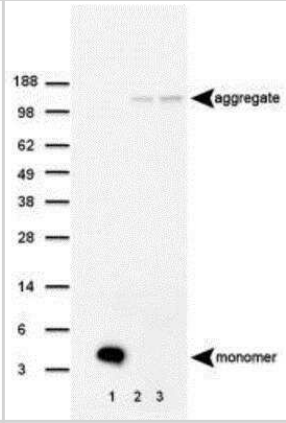
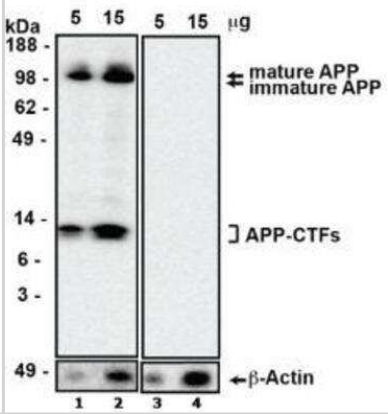
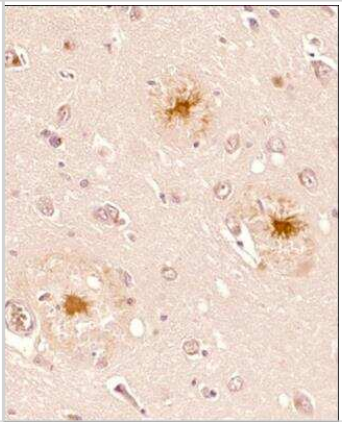
beta Amyloid Antibody (MOAB-2) - BSA Free

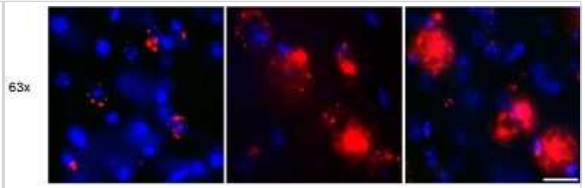
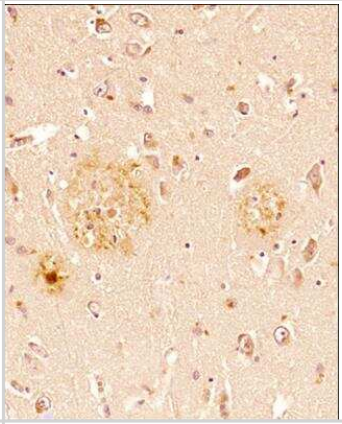
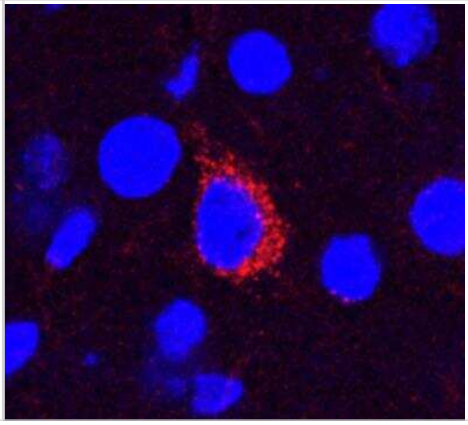
Product Information	
Unit Size	0.1 ml
Concentration	1.0 mg/ml
Storage	Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.
Clonality	Monoclonal
Clone	MOAB-2
Preservative	0.05% Sodium Azide
Isotype	IgG2b
Purity	Protein G purified
Buffer	PBS
Target Molecular Weight	5 kDa

Product Description	
Host	Mouse
Gene ID	351
Gene Symbol	APP
Species	Human, Mouse, Rat, Bacteria, Monkey
Reactivity Notes	Use in Mouse reported in scientific literature (PMID:35401818). Monkey reactivity reported in scientific literature (PMID: 29241829). Use in Bacteria reported in scientific literature (PMID:32413239).
Specificity/Sensitivity	Beta Amyloid antibody (MOAB-2) recognizes unaggregated, oligomeric and fibrillar forms of beta Amyloid 42 and unaggregated beta Amyloid 40. Does not detect APP.
Immunogen	This beta Amyloid antibody was developed against recombinant human beta Amyloid 42.

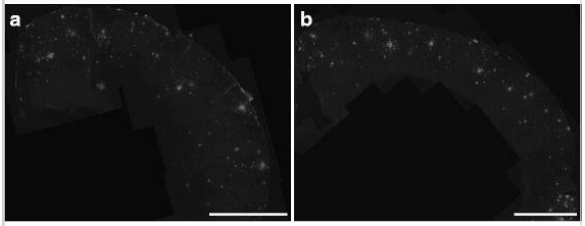
Product Application Details	
Applications	Western Blot, Dot Blot, ELISA, Immunoblotting, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Frozen, Immunohistochemistry-Paraffin, Immunoprecipitation, Immunohistochemistry Free-Floating
Recommended Dilutions	Western Blot 1:1000-1:5000, ELISA 1:100-1:1000, Immunohistochemistry 1:200-1:1000, Immunocytochemistry/ Immunofluorescence 1:200-1:500, Immunoprecipitation 1:200-1:1000, Immunohistochemistry-Paraffin 1:200-1:1000, Immunohistochemistry-Frozen, Immunoblotting reported in scientific literature (PMID 28314768), Dot Blot reported in scientific literature (PMID 22423893), Immunohistochemistry Free-Floating reported in scientific literature (PMID 25747037)
Application Notes	In Western blot, a band can be seen at ~4 kDa, representing the beta Amyloid monomer. Larger bands may also be seen representing the unaggregated, oligomeric, and fibrillar forms of beta Amyloid. For higher beta Amyloid yield in WB, please follow the extraction protocol described in Youmans et al, J Neurosci Methods. 2011 March 15; 196(1): 51-59 (PMID: 21219931).

Images

IHC analysis of beta Amyloid on normal mouse brain (left) and 5xFAD mouse brain (right) using DAB with hematoxylin counterstain. The MOAB-2 antibody was used at 1:20 on normal mouse brain and at 1:400 on 5xFAD mouse brain.	
Analysis of beta Amyloid (MOAB-2) antibody in (1) 100 pmole beta Amyloid 42, (2) 5xFAD mouse brain homogenate Repetition 1 and (3) 5xFAD mouse brain homogenate Repetition 2.	
Western blot analysis in cell lysates from HEK-APP SWE/BACE1 cells probed with an antibody against the C-terminus of APP (Lanes 1 and 2) and beta Amyloid (MOAB-2, Lanes 3 and 4). Beta Amyloid (MOAB-2) does not detect APP (from PMID: 22423893).	
IHC analysis of a formalin fixed paraffin embedded tissue section of human brain (Alzheimers disease, hippocampus) using 1:200 dilution of anti-beta Amyloid antibody (clone MOAB-2). The staining was developed with HRP labeled anti-mouse secondary antibody and DAB reagent, and nuclei of cells were counter-stained with hematoxylin. This beta Amyloid antibody specifically stained the cells with Abeta 42/ Abeta aggregates while the normal cells were negative for abeta peptide.	

Immunofluorescent detection of beta Amyloid with MOAB-2 in the subiculim of 1-, 2- and 4- month old 5xFAD mice. Scale bar 20 um (from PMID: 22423893).	
A plaque load in neocortex and hippocampus in APP/PS1 mice exposed to differential housing. Representative 10x MOAB-2 staining in hippocampus of APP/PS1 mice for each housing group. Image collected and cropped by CiteAb from the following publication (//pubmed.ncbi.nlm.nih.gov/28584278/) licensed under a CC-BY license.	
IHC analysis of a formalin fixed paraffin embedded tissue section of human brain (Alzheimers disease, hippocampus) using 1:40 dilution of anti-beta Amyloid antibody (clone MOAB-2). The staining was developed with HRP labeled anti-mouse secondary antibody and DAB reagent, and nuclei of cells were counter-stained with hematoxylin. This beta Amyloid antibody specifically stained the cells with Abeta 42/ Abeta aggregates while the normal cells were negative for abeta peptide.	
Mouse brain (cerebral cortex). Red: MOAB-2 antibody staining, Blue: DAPI. Zeiss LSM800, 40x. Image from verified customer review.	

Immunocytochemistry/ Immunofluorescence: beta Amyloid Antibody (MOAB-2) - BSA Free [NBP2-13075] - No difference in Aβ plaque load between propofol (n = 8) & vehicle (n = 6) treated APP/PS1 mice. a An example image of Aβ plaque immunoreactivity in the cortex of an APP/PS1 mouse following repeated propofol exposure. b A representative image of Aβ plaque immunolabeling the cortex of an APP/PS1 mouse following treatment with vehicle. c Bar graph showing the percentage of the cortex occupied by Aβ plaques in propofol & vehicle treated APP/PS1 mice. d Bar graph showing the average size (μm2) of Aβ plaques in the cortex of APP/PS1 in the propofol & vehicle treatment groups. e Bar graph showing the average density of Aβ plaques (/μm2) in the cortex of propofol & vehicle exposed APP/PS1 mice. All data is shown as mean ± SEM. Scale bar = 500 μm Image collected & cropped by CiteAb from the following publication (https://bmcanesthesiol.biomedcentral.com/articles/10.1186/s12871-018-0509-5), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Publications

Wang C, Shen D, Hu Y et al. Selective Targeting of Class I HDAC Reduces Microglial Inflammation in the Entorhinal Cortex of Young APP/PS1 Mice International journal of molecular sciences 2023-03-02 [PMID: 36902234] (Immunohistochemistry, Mouse)

Ngwa DN, Agrawal A Structurally Altered, Not Wild-Type, Pentameric C-Reactive Protein Inhibits Formation of Amyloid- beta Fibrils Journal of immunology (Baltimore, Md. : 1950) 2022-08-17 [PMID: 35977795]

J.P.S. Marshall, K. Huynh, G.I. Lancaster, J. Ng, J.M. Collins, G. Pernes, A. Liang, T. Featherby, N.A. Mellet, B.G. Drew, A.C. Calkin, A.E. King, P.J. Meikle, M.A. Febbraio, P.A. Adlard, D.C. Henstridge Behavioral, metabolic, and lipidomic characterization of the 5xFADxTg30 mouse model of Alzheimer's disease iScience 2024-01-04 [PMID: 38292430]

Jing He, Yuanjie Liu, Junhua Li, Yueyang Zhao, Hanxiao Jiang, Shifang Luo, Guiqiong He Intestinal changes in permeability, tight junction and mucin synthesis in a mouse model of Alzheimer's disease International Journal of Molecular Medicine 2023-12-01 [PMID: 37830152]

Bhatia HS, Brunner AD, OztUrk F et al. Spatial proteomics in three-dimensional intact specimens Cell 2022-12-22 [PMID: 36563667]

Khaled S Abd-Elrahman, Tash-Lynn L Colson, Shaarika Sarasija, Stephen S G Ferguson A M1 muscarinic acetylcholine receptor-specific positive allosteric modulator VU0486846 reduces neurogliosis in female Alzheimer's mice. Biomedicine & pharmacotherapy = Biomedecine & pharmacotherapie 2024-03-27 [PMID: 38460371]

B Bhargavan, SM Woollard, JE McMillan, GD Kanmogne CCR5 antagonist reduces HIV-induced amyloidogenesis, tau pathology, neurodegeneration, and blood-brain barrier alterations in HIV-infected hu-PBL-NSG mice Molecular Neurodegeneration, 2021-11-22;16(1):78. 2021-11-22 [PMID: 34809709]

Tikhonova MA, Amstislavskaya TG, Ho YJ et al. Neuroprotective Effects of Ceftriaxone Involve the Reduction of A? Burden and Neuroinflammatory Response in a Mouse Model of Alzheimer's Disease Frontiers in Neuroscience 2021-09-29 [PMID: 34658774]

Balczon R, Morrow KA, Leavesley S et al. Cystatin C regulates the cytotoxicity of infection-induced endothelial-derived ?-amyloid FEBS Open Bio 2020-11-01 [PMID: 33030263] (Western Blot)

Dong Y, Cheng L, Zhao Y. Resetting the circadian clock of Alzheimer's mice via GLP-1 injection combined with time-restricted feeding Frontiers in Physiology 2022-08-24 [PMID: 36148311] (Immunohistochemistry)

Das S, Ramanan N. Region-specific heterogeneity in neuronal nuclear morphology in young, aged and in Alzheimer's disease mouse brains Frontiers in Cell and Developmental Biology 2023-02-01 [PMID: 36819109]

Panes-Fernandez J, Godoy PA, Gavilan J et al. TG2 promotes amyloid beta aggregates: Impact on ER-mitochondria crosstalk, calcium homeostasis and synaptic function in Alzheimer's disease Biomedicine & pharmacotherapy = Biomedecine & pharmacotherapie 2023-03-27 [PMID: 36989728] (ICC/IF, IHC-Fr, Mouse)

More publications at http://www.novusbio.com/NBP2-13075

Procedures

Western Blot Protocol for beta Amyloid Antibody (NBP2-13075)
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.

Immunohistochemistry-Paraffin Protocol for beta Amyloid Antibody (NBP2-13075)
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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HAF007	Goat anti-Mouse IgG Secondary Antibody [HRP]
NB720-B	Rabbit anti-Mouse IgG (H+L) Secondary Antibody [Biotin]
NBP2-27231	Mouse IgG2b Isotype Control (MPC-11)
NBP2-13075H	beta Amyloid Antibody (MOAB-2) [HRP]

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