

Tau Monoclonal Antibody (TAU-5)

Catalog Number      AHB0042

Product data sheet

Details		Species Reactivity	
Size	100 µg	Species reactivity	Bovine, Human, Mouse, Sheep, Rat
Host/Isotope	Mouse / IgG1	Published species	Rat, Non-human primate, Bovine, Mouse, Human, Not Applicable
Class	Monoclonal		
Type	Antibody	Tested Applications	
Clone	TAU-5	Immunohistochemistry (Frozen) (IHC (F))	1:500
Immunogen	Purified bovine microtubule-associated proteins.	Immunohistochemistry (Paraffin) (IHC (P))	1:20-1:200
Conjugate	Unconjugated	Immunoprecipitation (IP)	Assay-dependent
Form	Liquid	Western Blot (WB)	1:500
Concentration	0.5 mg/mL	Immunocytochemistry (ICC/IF)	Assay-dependent
Purification	purified	Published Applications	
Storage buffer	PBS, pH 7.4	Western Blot (WB)	See 67 publications below
Contains	15mM sodium azide	Dot blot (DB)	See 1 publications below
Storage Conditions	-20°C	Immunoelectrophoresis (IE)	See 1 publications below
		Immunoprecipitation (IP)	See 5 publications below
		in situ PLA (PLA)	See 1 publications below
		Immunohistochemistry (IHC)	See 8 publications below
		Immunocytochemistry (ICC/IF)	See 5 publications below
		Immunohistochemistry (Frozen) (IHC (F))	See 2 publications below
		Miscellaneous PubMed (Misc)	See 5 publications below
		ELISA (ELISA)	See 2 publications below

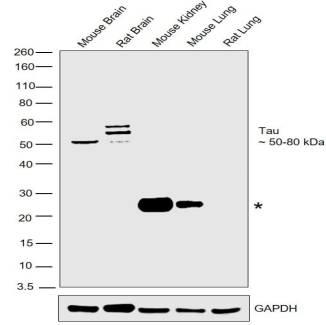
\* Suggested working dilutions are given as a guide only. It is recommended that the user titrate the product for use in their own experiment using appropriate negative and positive controls.

Background/Target Information

Tau is a neuronal microtubule-associated protein found predominantly on axons. The function of Tau is to promote tubulin polymerization and stabilize microtubules. The C-terminus binds axonal microtubules while the N- terminus binds neural plasma membrane components, suggesting that tau functions as a linker protein between both. Axonal polarity is predetermined by TAU/MAPT localization (in the neuronal cell) in the domain of the cell body defined by the centrosome. The short isoforms allow plasticity of the cytoskeleton while the longer isoforms may preferentially play a role in its stabilization. In its hyper-phosphorylated form, Tau is the major component of paired helical filaments (PHF), the building block of neurofibrillary lesions in Alzheimer's diseases (AD) brain. Hyper-phosphorylation impairs the microtubule binding function of Tau, resulting in the destabilization of microtubules in AD brains, ultimately leading to the degeneration of the affected neurons. Numerous serine/threonine kinases phosphorylate Tau, including GSK-3beta, protein kinase A (PKA), cyclin-dependent kinase 5 (cdk5) and casein kinase II. Hyper-phosphorylated Tau is found in neurofibrillary lesions in a range and other central nervous system disorders such as Pick's disease, frontotemporal dementia, cortico-basal degeneration and progressive supranuclear palsy.

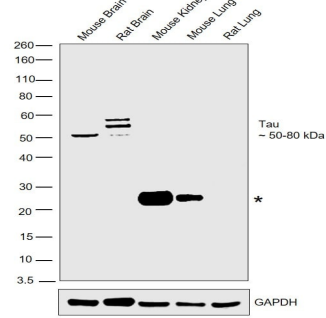
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Product Images For Tau Monoclonal Antibody (TAU-5)



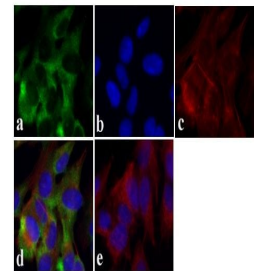
Tau Antibody (AHB0042)

Antibody specificity was demonstrated by detection of differential basal expression of the target across Mouse Brain, Rat Brain, Mouse Kidney, Mouse Lung, Rat Lung owing to their inherent genetic constitution. Relative expression of Tau was observed in Mouse and Rat Brain as compared to Kidney and Lung tissues using Anti-Tau Monoclonal Antibody (TAU-5) (Product # AHB0042) in Western Blot. {RE}



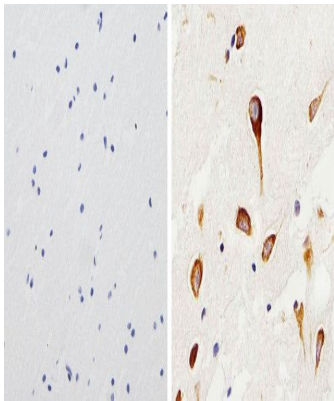
Tau Antibody (AHB0042) in WB

Western blot was performed using Anti-Tau Monoclonal Antibody (TAU-5) (Product # AHB0042) and 40-80 kDa bands corresponding to Tau were observed in Mouse and Rat Brain but not in Mouse Kidney or Mouse and Rat Lung. Tissue extracts (30 µg lysate) of Mouse Brain (Lane 1), Rat Brain (Lane 2), Mouse Kidney (Lane 3), Mouse Lung (Lane 4) or Rat Lung (Lane 5) were electrophoresed using NuPAGE™ 10% Bis-Tris Protein Gel (Product # NP0301BOX). Resolved proteins were then transferred onto a Nitrocellulose membrane (Product # IB23001) by iBlot® 2 Dry Blotting System (Product # IB21001). The blot was probed with the primary antibody (1:500) and detected by chemiluminescence with Goat anti-Mouse IgG (H+L) Superclonal™ Recombinant Secondary Antibody, HRP (Product # A28177,1:4000) using the iBright FL 1000 (Product # A32752). Chemiluminescent detection was performed using Novex® ECL Chemiluminescent Substrate Reagent Kit (Product # WP20005). Additional band at 25 kDa corresponds to tissue IgG and has been marked with an asterisk.



Tau Antibody (AHB0042) in ICC/IF

Immunofluorescent analysis of Tau (Tau-5) was done on 70% confluent log phase SHSY5Y cells. The cells were fixed with 4% paraformaldehyde for 15 minutes, permeabilized with 0.25% Triton™ X-100 for 10 minutes, and blocked with 5% BSA for 1 hour at room temperature. The cells were labeled with Tau (Tau-5) Mouse Monoclonal Antibody (Product # AHB0042) at 1 µg/mL in 1% BSA and incubated for 3 hours at room temperature and then labeled with Alexa Fluor 488 Rabbit Anti-Mouse IgG Secondary Antibody (Product # A-11059) at a dilution of 1:400 for 30 minutes at room temperature (Panel a: green). Nuclei (Panel b: blue) were stained with SlowFade Gold Antifade Mountant with DAPI (Product # S36938). F-actin (Panel c: red) was stained with Alexa Fluor 594 Phalloidin (Product # A12381). Panel d is a merged image showing cytoplasmic localization and panel e is a no primary antibody control. The images were captured at 20X magnification.



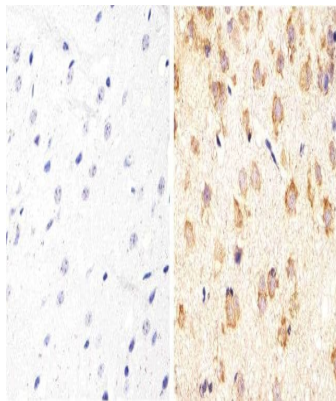
Tau Antibody (AHB0042) in IHC (P)

Immunohistochemistry analysis of Tau showing staining in the cytoplasm and weak nuclear staining of paraffin-embedded human brain tissue (right) compared to a negative control without primary antibody (left). To expose target proteins, antigen retrieval was performed using 10mM sodium citrate (pH 6.0), microwaved for 8-15 min. Following antigen retrieval, tissues were blocked in 3% H2O2-methanol for 15 min at room temperature, washed with ddH2O and PBS, and then probed with a Tau (Product # AHB0042) diluted in 3% BSA-PBS at a dilution of 1:200 overnight at 4°C in a humidified chamber. Tissues were washed extensively in PBST and detection was performed using an HRP-conjugated secondary antibody followed by colorimetric detection using a DAB kit. Tissues were counterstained with hematoxylin and dehydrated with ethanol and xylene to prep for mounting.

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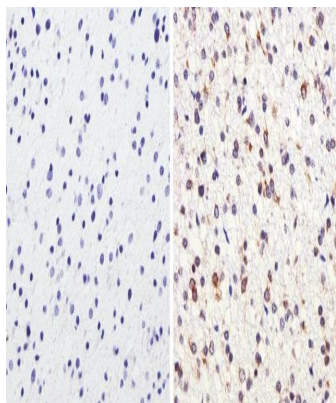
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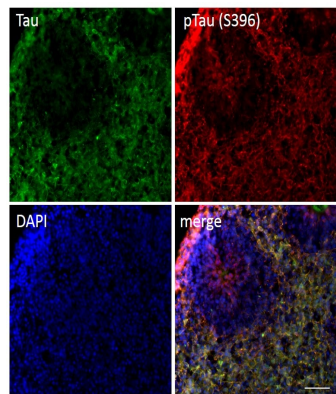
#### Tau Antibody (AHB0042) in IHC (P)

Immunohistochemistry analysis of Tau showing staining in the cytoplasm of paraffin-embedded mouse brain tissue (right) compared to a negative control without primary antibody (left). To expose target proteins, antigen retrieval was performed using 10mM sodium citrate (pH 6.0), microwaved for 8-15 min. Following antigen retrieval, tissues were blocked in 3% H<sub>2</sub>O<sub>2</sub>-methanol for 15 min at room temperature, washed with ddH<sub>2</sub>O and PBS, and then probed with a Tau (Product # AHB0042) diluted in 3% BSA-PBS at a dilution of 1:20 overnight at 4°C in a humidified chamber. Tissues were washed extensively in PBST and detection was performed using an HRP-conjugated secondary antibody followed by colorimetric detection using a DAB kit. Tissues were counterstained with hematoxylin and dehydrated with ethanol and xylene to prep for mounting.



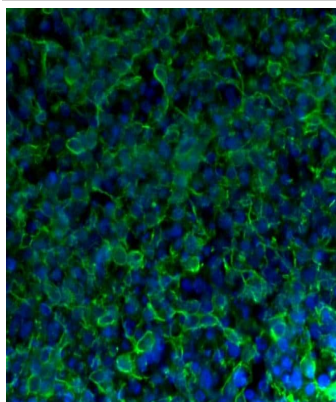
#### Tau Antibody (AHB0042) in IHC (P)

Immunohistochemistry analysis of Tau showing staining in the cytoplasm of paraffin-embedded human astroglioma (right) compared to a negative control without primary antibody (left). To expose target proteins, antigen retrieval was performed using 10mM sodium citrate (pH 6.0), microwaved for 8-15 min. Following antigen retrieval, tissues were blocked in 3% H<sub>2</sub>O<sub>2</sub>-methanol for 15 min at room temperature, washed with ddH<sub>2</sub>O and PBS, and then probed with a Tau (Product # AHB0042) diluted in 3% BSA-PBS at a dilution of 1:50 overnight at 4°C in a humidified chamber. Tissues were washed extensively in PBST and detection was performed using an HRP-conjugated secondary antibody followed by colorimetric detection using a DAB kit. Tissues were counterstained with hematoxylin and dehydrated with ethanol and xylene to prep for mounting.



#### Tau Antibody (AHB0042) in IHC (F)

Immunofluorescent analysis of p-Tau (S396) and Tau in human iPSC-derived forebrain organoids derived at Day 40. The organoids were fixed with 4% PFA for 1 hour at room temperature, followed by incubation with 30% sucrose solution overnight at 4°C. The organoids were then embedded in OCT and cryosectioned at 5 µm, permeabilized with 0.2% Triton X-100 for 20 min, and blocked with 10% donkey serum in PBS for 30 min at room temperature. Organoid slices were stained with a Mouse Tau (TAU-5) monoclonal antibody (green; Product # AHB0042) at a dilution of 1:500 and a Rabbit p-Tau (Ser396) polyclonal antibody (red; Product # 44-752G) at a dilution of 1:500 in blocking buffer overnight at 4°C, and then incubated with Donkey anti-Mouse Alexa Fluor 488 (Product # R37114), Donkey anti-Rabbit Alexa Fluor 568 (Product # A10042) at a dilution of 1:1000 as well as DAPI (blue; 1:25000) in blocking solution at room temperature for 1 hour. Images were taken at 20X magnification. Scale bar: 50 µm. Data courtesy of Dr. Zhexing Wen at Emory University.



#### Tau Antibody (AHB0042) in IHC (F)

Immunofluorescent analysis of Tau in human iPSC-derived forebrain organoids derived at Day 40. The organoids were fixed with 4% PFA for 1 hour at room temperature, followed by incubation with 30% sucrose solution overnight at 4°C. The organoids were then embedded in OCT and cryosectioned at 5 µm, permeabilized with 0.2% Triton X-100 for 20 min, and blocked with 10% donkey serum in PBS for 30 min at room temperature. Organoid slices were stained with a Mouse Tau monoclonal antibody (green; Product # AHB0042) at a dilution of 1:500 in blocking buffer overnight at 4°C, and then incubated with Donkey anti-Mouse Alexa Fluor 488 (Product # R37114) at a dilution of 1:1000 as well as DAPI (blue; 1:25000) in blocking solution at room temperature for 1 hour. Images were taken at 20X magnification. Data courtesy of Dr. Zhexing Wen at Emory University.

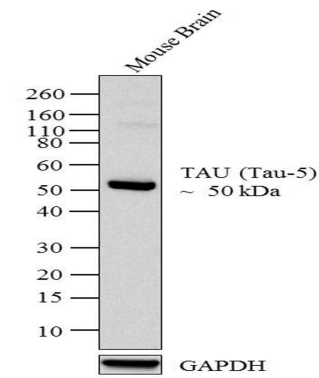
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Tau Antibody (AHB0042) in WB

Western blot analysis of Tau-5 was performed by loading 20 µg of Mouse brain tissue lysates using Novex® NuPAGE® 4-12 % Bis-Tris gel (Product # NP0321BOX), XCell SureLock Electrophoresis System (Product # EI0002), Novex® Sharp Pre-Stained Protein Standard (Product # LC5800), and iBlot® Dry Blotting System (Product # IB21001). Proteins were transferred to a nitrocellulose membrane and blocked with 5 % skim milk for 1 hour at room temperature. Tau-5 was detected at ~50 kDa using Tau-5 Mouse Monoclonal Antibody (Product # AHB0042) at 0.5-1 µg/mL in 2.5 % skim milk at 4°C overnight on a rocking platform. Goat anti-Mouse HRP Secondary Antibody (Product # 62-6520) at 1:4000 dilution was used and chemiluminescent detection was performed using Pierce™ ECL Western blotting Substrate (Product # 32106).



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## PubMed References For Tau Monoclonal Antibody (TAU-5)

### 67 Western Blot References

Species / Dilution	Summary
	AHB0042 was used in western blot to evaluate if OVX/stress affects levels of Alzheimer's disease-related molecules in the mouse hippocampus
Not Applicable / 1:1000	Neuroscience letters ( 2008; 433: 141) <b>"Enhanced activity of hippocampal BACE1 in a mouse model of postmenopausal memory deficits."</b> Author(s):Fukuzaki E,Takuma K,Himeno Y,Yoshida S,Funatsu Y,Kitahara Y,Mizoguchi H,Ibi D,Koike K,Inoue M,Yamada K PubMed Article URL: <a href="http://dx.doi.org/10.1016/j.neulet.2007.12.060">http://dx.doi.org/10.1016/j.neulet.2007.12.060</a>
Not Applicable / 1:1000	AHB0042 was used in immunocytochemistry and western blot to determine modulation of cellular release of tau by FRMD4A-cytohesin signaling  Journal of cell science ( 2016; 129: 2003) <b>"FRMD4A-cytohesin signaling modulates the cellular release of tau."</b> Author(s):Yan X,Nykänen NP,Brunello CA,Haapasalo A,Hiltunen M,Uronen RL,Huttunen HJ PubMed Article URL: <a href="http://dx.doi.org/10.1242/jcs.180745">http://dx.doi.org/10.1242/jcs.180745</a>
Mouse / Not Cited	AHB0042 was used in Western Blotting to show reduced, behaviourally driven, gamma oscillations before the onset of plaque formation or cognitive decline in a mouse model of Alzheimer's disease.  Nature ( 2016; 540: 230) <b>"Gamma frequency entrainment attenuates amyloid load and modifies microglia."</b> Author(s):Iaccarino HF,Singer AC,Martorell AJ,Rudenko A,Gao F,Gillingham TZ,Mathys H,Seo J,Kritskiy O,Abdurrob F, Adaikkan C,Canter RG,Rueda R,Brown EN,Boyden ES,Tsai LH PubMed Article URL: <a href="http://dx.doi.org/10.1038/nature20587">http://dx.doi.org/10.1038/nature20587</a>
Mouse / Not Cited	AHB0042 was used in Western Blotting to show that GENUS can be achieved through multiple sensory modalities with wide-ranging effects across multiple brain areas to improve cognitive function.  Cell ( 2019; 177: 256) <b>"Multi-sensory Gamma Stimulation Ameliorates Alzheimer's-Associated Pathology and Improves Cognition."</b> Author(s):Martorell AJ,Paulson AL,Suk HJ,Abdurrob F,Drummond GT,Guan W,Young JZ,Kim DN,Kritskiy O,Barker SJ, Mangena V,Prince SM,Brown EN,Chung K,Boyden ES,Singer AC,Tsai LH PubMed Article URL: <a href="http://dx.doi.org/10.1016/j.cell.2019.02.014">http://dx.doi.org/10.1016/j.cell.2019.02.014</a>
Bovine / 1:200	AHB0042 was used in Western Blotting to investigate the role of glucocorticoids in mitophagy inhibition and subsequent synaptic defects in hippocampal neurons, SH-SY5Y cells, and ICR mice.  Nature communications ( 2021; 12: ) <b>"BNIP3L/NIX-mediated mitophagy protects against glucocorticoid-induced synapse defects."</b> Author(s):Choi GE,Lee HJ,Chae CW,Cho JH,Jung YH,Kim JS,Kim SY,Lim JR,Han HJ PubMed Article URL: <a href="http://dx.doi.org/10.1038/s41467-020-20679-y">http://dx.doi.org/10.1038/s41467-020-20679-y</a>
Mouse / Not Cited	AHB0042 was used in western blot identify and investigate Reelin-regulated signaling pathways in the brain  Molecular and cellular biology ( 2007; 27: 7113) <b>"Reelin signals through phosphatidylinositol 3-kinase and Akt to control cortical development and through mTor to regulate dendritic growth."</b> Author(s):Jossin Y,Goffinet AM PubMed Article URL: <a href="http://dx.doi.org/10.1128/MCB.00928-07">http://dx.doi.org/10.1128/MCB.00928-07</a>
Rat / 1:200	AHB0042 was used in Western Blotting to provide a novel mechanism of the hyperphosphorylation of tau and identify both PKA and GSK-3 as promising therapeutic targets for AD and other tauopathies.  The Journal of biological chemistry ( 2004; 279: 50078) <b>"Tau becomes a more favorable substrate for GSK-3 when it is prephosphorylated by PKA in rat brain."</b> Author(s):Liu SJ,Zhang JY,Li HL,Fang ZY,Wang Q,Deng HM,Gong CX,Grundke-Iqbal I,Iqbal K,Wang JZ PubMed Article URL: <a href="http://dx.doi.org/10.1074/jbc.M406109200">http://dx.doi.org/10.1074/jbc.M406109200</a>
Mouse / Not Cited	AHB0042 was used in western blot to test the effects of high fat diet using a mouse model of familial Alzheimer disease.  Biochimica et biophysica acta ( 2015; 1852: 1687) <b>"High-fat diet-induced deregulation of hippocampal insulin signaling and mitochondrial homeostasis deficiencies contribute to Alzheimer disease pathology in rodents."</b> Author(s):Petrov D,Pedrós I,Artiach G,Sureda FX,Barroso E,Pallàs M,Casadesús G,Beas-Zarate C,Carro E,Ferrer I, Vazquez-Carrera M,Folch J,Camins A PubMed Article URL: <a href="http://dx.doi.org/10.1016/j.bbadis.2015.05.004">http://dx.doi.org/10.1016/j.bbadis.2015.05.004</a>

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	AHB0042 was used in Western Blotting to evaluate the effects of aerobic exercise on the phosphorylation and acetylation of tau and the expressions of tau-related proteins, after middle cerebral artery occlusion (MCAO) stroke.
Rat / 1:1000	International journal of molecular sciences ( 2020; 21: ) <b>"Effects of Aerobic Exercise on Tau and Related Proteins in Rats with the Middle Cerebral Artery Occlusion."</b> Author(s):Mankhong S,Kim S,Moon S,Lee KH,Jeon HE,Hwang BH,Beak JW,Joa KL,Kang JH PubMed Article URL: <a href="http://dx.doi.org/10.3390/ijms21165842">http://dx.doi.org/10.3390/ijms21165842</a>
	AHB0042 was used in western blot to study reduction of hyperphosphorylated Tau by beta-secretase 1's targeting implying autophagy actors in 3xTg-AD mice
Not Applicable / 1:1000	Frontiers in cellular neuroscience ( 2016; 9: ) <b>"Secretase 1's Targeting Reduces Hyperphosphorylated Tau, Implying Autophagy Actors in 3xTg-AD Mice."</b> Author(s):Piedrahita D,Castro-Alvarez JF,Boudreau RL,Villegas-Lanau A,Kosik KS,Gallego-Gomez JC,Cardona-Gómez GP PubMed Article URL: <a href="http://dx.doi.org/10.3389/fncel.2015.00498">http://dx.doi.org/10.3389/fncel.2015.00498</a>
	AHB0042 was used in Western Blot to pave the way to evaluate whether similar results occur in vivo and through what mechanisms.
Rat / Not Cited	International journal of molecular sciences ( 2022; 23: ) <b>"Extracellular Vesicles Derived from Young Neural Cultures Attenuate Astrocytic Reactivity In Vitro."</b> Author(s):Almansa D,Peinado H,García-Rodríguez R,Casademó-Perales Á,Dotti CG,Guix FX PubMed Article URL: <a href="http://dx.doi.org/10.3390/ijms23031371">http://dx.doi.org/10.3390/ijms23031371</a>
	AHB0042 was used in Western Blotting to study whether HS3ST2 and its 3-O-sulphated heparan sulphate products are involved in the mechanisms leading to the abnormal phosphorylation of tau in Alzheimer's disease and related tauopathies.
Human / Not Cited	Brain : a journal of neurology ( 2015; 138: 1339) <b>"HS3ST2 expression is critical for the abnormal phosphorylation of tau in Alzheimer's disease-related tau pathology."</b> Author(s):Sepulveda-Diaz JE,Alavi Naini SM,Huynh MB,Ouidja MO,Yanicostas C,Chantepie S,Villares J,Lamari F,Jospin E,van Kuppevelt TH,Mensah-Nyagan AG,Raisman-Vozari R,Soussi-Yanicostas N,Papy-Garcia D PubMed Article URL: <a href="http://dx.doi.org/10.1093/brain/awv056">http://dx.doi.org/10.1093/brain/awv056</a>
	AHB0042 was used in western blot to elucidate how the removal of assembled neurofilaments from axons or misaccumulating neurofilaments in motor neuron cell bodies slows disease in a mouse model of amyotrophic lateral sclerosis
Not Applicable / 1:1000	Proceedings of the National Academy of Sciences of the United States of America ( 2005; 102: 10351) <b>"Altered axonal architecture by removal of the heavily phosphorylated neurofilament tail domains strongly slows superoxide dismutase 1 mutant-mediated ALS."</b> Author(s):Lobsiger CS,Garcia ML,Ward CM,Cleveland DW PubMed Article URL: <a href="http://dx.doi.org/10.1073/pnas.0503862102">http://dx.doi.org/10.1073/pnas.0503862102</a>
	AHB0042 was used in Western Blot to investigate the potential role of miR-124/PTPN1 in the tau pathology of AD.
Mouse / Not Cited	Journal of neurochemistry ( 2020; 154: 441) <b>"Correcting abnormalities in miR-124/PTPN1 signaling rescues tau pathology in Alzheimer's disease."</b> Author(s):Hou TY,Zhou Y,Zhu LS,Wang X,Pang P,Wang DQ,Liuyang ZY,Man H,Lu Y,Zhu LQ,Liu D PubMed Article URL: <a href="http://dx.doi.org/10.1111/jnc.14961">http://dx.doi.org/10.1111/jnc.14961</a>
	AHB0042 was used in western blot to determine that Abeta deposition or oestrogen deficiency increases PP2A phosphorylation to compromise tau dephosphorylation and cause neurofibrillary tangle formation in Alzheimer's disease
Not Applicable / 1:1000	Journal of cellular and molecular medicine ( 2008; 12: 241) <b>"Phosphorylated PP2A (tyrosine 307) is associated with Alzheimer neurofibrillary pathology."</b> Author(s):Liu R,Zhou XW,Tanila H,Bjorkdahl C,Wang JZ,Guan ZZ,Cao Y,Gustafsson JA,Winblad B,Pei JJ PubMed Article URL: <a href="http://dx.doi.org/10.1111/j.1582-4934.2008.00249.x">http://dx.doi.org/10.1111/j.1582-4934.2008.00249.x</a>
	AHB0042 was used in Western Blotting to study the synaptic role of Tau.
Mouse / 1:500	Philosophical transactions of the Royal Society of London. Series B, Biological sciences ( 2014; 369: ) <b>"Microtubule-associated protein tau is essential for long-term depression in the hippocampus."</b> Author(s):Kimura T,Whitcomb DJ,Jo J,Regan P,Piers T,Heo S,Brown C,Hashikawa T,Murayama M,Seok H,Sotiropoulos I,Kim E,Collingridge GL,Takashima A,Cho K PubMed Article URL: <a href="http://dx.doi.org/10.1098/rstb.2013.0144">http://dx.doi.org/10.1098/rstb.2013.0144</a>
	AHB0042 was used in Western Blotting to investigate the function of miR-128 as a tumour suppressor in glioma.
Mouse / Not Cited	Oncogene ( 2012; 31: 1884) <b>"Pro-neural miR-128 is a glioma tumor suppressor that targets mitogenic kinases."</b> Author(s):Papagiannakopoulos T,Friedmann-Morvinski D,Neveu P,Dugas JC,Gill RM,Huillard E,Liu C,Zong H,Rowitch DH,Barres BA,Verma IM,Kosik KS PubMed Article URL: <a href="http://dx.doi.org/10.1038/onc.2011.380">http://dx.doi.org/10.1038/onc.2011.380</a>

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Rat / Not Cited	<p>The EMBO journal ( 2005; 24: 209)  <b>"A Cdk5 inhibitory peptide reduces tau hyperphosphorylation and apoptosis in neurons."</b>            Author(s):Zheng YL,Kesavapany S,Gravell M,Hamilton RS,Schubert M,Amin N,Albers W,Grant P,Pant HC            PubMed Article URL:<a href="http://dx.doi.org/10.1038/sj.emboj.7600441">http://dx.doi.org/10.1038/sj.emboj.7600441</a></p>
	<p>AHB0042 was used in Western Blotting to conclude that the role of ER stress in AD pathogenesis needs to be carefully addressed in future studies.</p>
Mouse / 1:2,500	<p>The Journal of biological chemistry ( 2018; 293: 3118)  <b>"Endoplasmic reticulum stress responses in mouse models of Alzheimer's disease: Overexpression paradigm &lt;i&gt;versus&lt;/i&gt; knockin paradigm."</b>            Author(s):Hashimoto S,Ishii A,Kamano N,Watamura N,Saito T,Ohshima T,Yokosuka M,Saido TC            PubMed Article URL:<a href="http://dx.doi.org/10.1074/jbc.M117.811315">http://dx.doi.org/10.1074/jbc.M117.811315</a></p>
	<p>AHB0042 was used in western blot to study Alzheimer's disease by use of a domestic cat animal model</p>
Not Applicable / 1:1000	<p>Acta neuropathologica communications ( 2015; 3: )  <b>"The domestic cat as a natural animal model of Alzheimer's disease."</b>            Author(s):Chambers JK,Tokuda T,Uchida K,Ishii R,Tatebe H,Takahashi E,Tomiya T,Une Y,Nakayama H            PubMed Article URL:<a href="http://dx.doi.org/10.1186/s40478-015-0258-3">http://dx.doi.org/10.1186/s40478-015-0258-3</a></p>
	<p>AHB0042 was used in immunohistochemistry - paraffin section and western blot to characterize a new mouse model of Alzheimer's disease</p>
Not Applicable / 1:10,000	<p>The American journal of pathology ( 2006; 169: 599)  <b>"Alzheimer's disease-like tau neuropathology leads to memory deficits and loss of functional synapses in a novel mutated tau transgenic mouse without any motor deficits."</b>            Author(s):Schindowski K,Bretteville A,Leroy K,Bégar S,Brion JP,Hamdane M,Buée L            PubMed Article URL:<a href="http://dx.doi.org/10.2353/ajpath.2006.060002">http://dx.doi.org/10.2353/ajpath.2006.060002</a></p>
	<p>AHB0042 was used in Western Blotting to show that non-lethal reductions in axonal transport, and perhaps other types of minor axonal stress, are sufficient to induce and/or accelerate abnormal tau behaviour characteristic of Alzheimer's disease and other neurodegenerative tauopathies.</p>
Not Applicable / Not Cited	<p>Human molecular genetics ( 2010; 19: 4399)  <b>"Kinesin-1 transport reductions enhance human tau hyperphosphorylation, aggregation and neurodegeneration in animal models of tauopathies."</b>            Author(s):Falzone TL,Gunawardena S,McCleary D,Reis GF,Goldstein LS            PubMed Article URL:<a href="http://dx.doi.org/10.1093/hmg/ddq363">http://dx.doi.org/10.1093/hmg/ddq363</a></p>
	<p>AHB0042 was used in western blot to see that the granulin Alzheimer's disease risk variant has no significant effects on florbetapir positron emission tomographic amyloid imaging and cerebrospinal fluid Abeta levels</p>
Human / 1:2000	<p>Acta neuropathologica ( 2017; 133: 785)  <b>"Opposing effects of progranulin deficiency on amyloid and tau pathologies via microglial TYROBP network."</b>            Author(s):Takahashi H,Klein ZA,Bhagat SM,Kaufman AC,Kostylev MA,Ikezu T,Strittmatter SM            PubMed Article URL:<a href="http://dx.doi.org/10.1007/s00401-017-1668-z">http://dx.doi.org/10.1007/s00401-017-1668-z</a></p>
	<p>AHB0042 was used in western blot to study how induction of Calyculin A in N2a cells can attenuate axonal transport impairment and axonopathy by Berberine</p>
Not Applicable / 1:500	<p>PloS one ( 2015; 9: )  <b>"Berberine attenuates axonal transport impairment and axonopathy induced by Calyculin A in N2a cells."</b>            Author(s):Liu X,Zhou J,Abid MD,Yan H,Huang H,Wan L,Feng Z,Chen J            PubMed Article URL:<a href="http://dx.doi.org/10.1371/journal.pone.0093974">http://dx.doi.org/10.1371/journal.pone.0093974</a></p>
Bovine / Not Cited	<p>The Journal of biological chemistry ( 2012; 287: 14984)  <b>"The protein phosphatase PP2A/B binds to the microtubule-associated proteins Tau and MAP2 at a motif also recognized by the kinase Fyn: implications for tauopathies."</b>            Author(s):Sontag JM,Nunbhakdi-Craig V,White CL,Halpain S,Sontag E            PubMed Article URL:<a href="http://dx.doi.org/10.1074/jbc.M111.338681">http://dx.doi.org/10.1074/jbc.M111.338681</a></p>
	<p>AHB0042 was used in western blot to assess the neuroprotective effects of delphinidin against Abeta-induced toxicity</p>
Not Applicable / 1:1000	<p>Bioscience, biotechnology, and biochemistry ( 2009; 73: 1685)  <b>"Delphinidin ameliorates beta-amyloid-induced neurotoxicity by inhibiting calcium influx and tau hyperphosphorylation."</b>            Author(s):Kim HS,Sul D,Lim JY,Lee D,Joo SS,Hwang KW,Park SY            PubMed Article URL:<a href="http://dx.doi.org/10.1271/bbb.90032">http://dx.doi.org/10.1271/bbb.90032</a></p>

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	AHB0042 was used in Western Blotting to find that DHCR24 knockdown can lead to tau hyperphosphorylation in the astrocyte itself by activating lipid raft-dependent Ras/MEK/ERK signaling, which might contribute to the pathogenesis of AD and other degenerative tauopathies.
Mouse / Not Cited	Molecular neurobiology ( 2022; 59: 5856) <b>"DHCR24 Knockdown Induces Tau Hyperphosphorylation at Thr181, Ser199, Ser262, and Ser396 Sites via Activation of the Lipid Raft-Dependent Ras/MEK/ERK Signaling Pathway in C8D1A Astrocytes."</b> Author(s):Mai M,Guo X,Huang Y,Zhang W,Xu Y,Zhang Y,Bai X,Wu J,Zu H PubMed Article URL: <a href="http://dx.doi.org/10.1007/s12035-022-02945-w">http://dx.doi.org/10.1007/s12035-022-02945-w</a>
	AHB0042 was used in Western Blotting to compare the differentially expressed proteins (DEPs) of subordinate mice to those of patients at varying stages of dementia.
Human / 1:30000 Mouse / 1:30000	The European journal of neuroscience ( 2022; 55: 2971) <b>"Lifelong chronic psychosocial stress induces a proteomic signature of Alzheimer's disease in wildtype mice."</b> Author(s):Lyons CE,Zhou X,Razzoli M,Chen M,Xia W,Ashe K,Zhang B,Bartolomucci A PubMed Article URL: <a href="http://dx.doi.org/10.1111/ejn.15329">http://dx.doi.org/10.1111/ejn.15329</a>
	AHB0042 was used in western blot to use triple transgenic Alzhemier's mice to study short- and long-term CDK5 knockdown and prevention of spatial memory dysfunction and tau pathology
Not Applicable / Not Cited	Frontiers in aging neuroscience ( 2014; 6: ) <b>"Long- and short-term CDK5 knockdown prevents spatial memory dysfunction and tau pathology of triple transgenic Alzheimer's mice."</b> Author(s):Castro-Alvarez JF,Urbe-Arias SA,Kosik KS,Cardona-Gómez GP PubMed Article URL: <a href="http://dx.doi.org/10.3389/fnagi.2014.00243">http://dx.doi.org/10.3389/fnagi.2014.00243</a>
	AHB0042 was used in western blot to investigate the potential neuroprotective effects of caffeic acid against Abeta-induced toxicity
Not Applicable / 1:1000	Life sciences ( 2009; 84: 257) <b>"Protective effect of caffeic acid against beta-amyloid-induced neurotoxicity by the inhibition of calcium influx and tau phosphorylation."</b> Author(s):Sul D,Kim HS,Lee D,Joo SS,Hwang KW,Park SY PubMed Article URL: <a href="http://dx.doi.org/10.1016/j.lfs.2008.12.001">http://dx.doi.org/10.1016/j.lfs.2008.12.001</a>
	AHB0042 was used in western blot to study the tauopathic changes in the striatum of the alpha-synuclein A53T mutant mouse
Not Applicable / 1:500	PloS one ( 2011; 6: ) <b>"Tauopathic changes in the striatum of A53T -synuclein mutant mouse model of Parkinson's disease."</b> Author(s):Wills J,Credle J,Haggerty T,Lee JH,Oaks AW,Sidhu A PubMed Article URL: <a href="http://dx.doi.org/10.1371/journal.pone.0017953">http://dx.doi.org/10.1371/journal.pone.0017953</a>
	AHB0042 was used in Western Blot to observe retarded axon outgrowth, elevated p35 and p25 protein levels, and increased tau phosphorylation at major Cdk5 phosphorylation sites in Rps23rg1 knockout (KO) mice.
Mouse / Not Cited	Cell death and differentiation ( 2021; 28: 337) <b>"RPS23RG1 modulates tau phosphorylation and axon outgrowth through regulating p35 proteasomal degradation."</b> Author(s):Zhao D,Zhou Y,Huo Y,Meng J,Xiao X,Han L,Zhang X,Luo H,Can D,Sun H,Huang TY,Wang X,Zhang J,Liu FR,Xu H,Zhang YW PubMed Article URL: <a href="http://dx.doi.org/10.1038/s41418-020-00620-y">http://dx.doi.org/10.1038/s41418-020-00620-y</a>
	AHB0042 was used in western blot to evaluate five glycogen synthase kinase-3beta inhibitors and lithium in lowering phosphorylated tau and glycogen synthase kinase-3beta enzyme activity levels in 12-day old postnatal rats
Not Applicable / 1:5000	British journal of pharmacology ( 2007; 152: 959) <b>"Efficacy of small-molecule glycogen synthase kinase-3 inhibitors in the postnatal rat model of tau hyperphosphorylation."</b> Author(s):Selenica ML,Jensen HS,Larsen AK,Pedersen ML,Helboe L,Leist M,Lotharius J PubMed Article URL: <a href="http://dx.doi.org/10.1038/sj.bjp.0707471">http://dx.doi.org/10.1038/sj.bjp.0707471</a>
	AHB0042 was used in western blot to investigate the role of Apaf1 in axonogenesis
Human / Not Cited	Cellular and molecular life sciences : CMLS ( 2015; 72: 4173) <b>"Apaf1-deficient cortical neurons exhibit defects in axonal outgrowth."</b> Author(s):De Zio D,Molinari F,Rizza S,Gatta L,Ciotti MT,Salvatore AM,Mathiassen SG,Cwetsch AW,Filomeni G,Rosano G,Ferraro E PubMed Article URL: <a href="http://dx.doi.org/10.1007/s00018-015-1927-x">http://dx.doi.org/10.1007/s00018-015-1927-x</a>

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	AHB0042 was used in western blot to test if sex hormones prevent tau cleavage and Abeta toxicity
Not Applicable / 1:1000	Neuroscience ( 2007; 144: 119) <b>"Caspase-3- and calpain-mediated tau cleavage are differentially prevented by estrogen and testosterone in beta-amyloid-treated hippocampal neurons."</b> Author(s):Park SY,Tournell C,Sinjoanu RC,Ferreira A PubMed Article URL: <a href="http://dx.doi.org/10.1016/j.neuroscience.2006.09.012">http://dx.doi.org/10.1016/j.neuroscience.2006.09.012</a>
Human / 1:1,000	AHB0042 was used in Western Blotting to demonstrate that aberrant tau in FTD patient-derived neurons is amenable to targeted degradation, representing an important advance for therapeutics. eLife ( 2019; 8: ) <b>"Targeted degradation of aberrant tau in frontotemporal dementia patient-derived neuronal cell models."</b> Author(s):Silva MC,Ferguson FM,Cai Q,Donovan KA,Nandi G,Patnaik D,Zhang T,Huang HT,Lucente DE,Dickerson BC,Mitchison TJ,Fischer ES,Gray NS,Haggarty SJ PubMed Article URL: <a href="http://dx.doi.org/10.7554/eLife.45457">http://dx.doi.org/10.7554/eLife.45457</a>
Mouse / Not Cited Rat / Not Cited	AHB0042 was used in Western Blotting to identify a potent USP14 inhibitor that retains specificity for USP14. The Journal of biological chemistry ( 2017; 292: 19209) <b>"An inhibitor of the proteasomal deubiquitinating enzyme USP14 induces tau elimination in cultured neurons."</b> Author(s):Boselli M,Lee BH,Robert J,Prado MA,Min SW,Cheng C,Silva MC,Seong C,Elsasser S,Hatle KM,Gahman TC,Gygi SP,Haggarty SJ,Gan L,King RW,Finley D PubMed Article URL: <a href="http://dx.doi.org/10.1074/jbc.M117.815126">http://dx.doi.org/10.1074/jbc.M117.815126</a>
Human / Not Cited	AHB0042 was used in Western Blotting to propose that dysregulation of neural gene networks may set in motion the pathologic cascade that leads to AD. Cell reports ( 2019; 26: 1112) <b>"REST and Neural Gene Network Dysregulation in iPSC Models of Alzheimer's Disease."</b> Author(s):Meyer K,Feldman HM,Lu T,Drake D,Lim ET,Ling KH,Bishop NA,Pan Y,Seo J,Lin YT,Su SC,Church GM,Tsai LH,Yankner BA PubMed Article URL: <a href="http://dx.doi.org/10.1016/j.celrep.2019.01.023">http://dx.doi.org/10.1016/j.celrep.2019.01.023</a>
Mouse / Not Cited	AHB0042 was used in IP/Western Blotting to identify molecules which may provide new tools to study a neuronal migration and cortical plate development. Cerebral cortex (New York, N.Y. : 1991) ( 2007; 17: 211) <b>"Identification of small molecules that interfere with radial neuronal migration and early cortical plate development."</b> Author(s):Zhou L,Jossin Y,Goffinet AM PubMed Article URL: <a href="http://dx.doi.org/10.1093/cercor/bhj139">http://dx.doi.org/10.1093/cercor/bhj139</a>
Mouse / 1:1000	AHB0042 was used in Western Blotting to determine whether ovarian hormones influence the effect of diet on the brain. Frontiers in cellular neuroscience ( 2020; 12: ) <b>"Ovarian Function Modulates the Effects of Long-Chain Polyunsaturated Fatty Acids on the Mouse Cerebral Cortex."</b> Author(s):Herrera JL,Ordoñez-Gutierrez L,Fabrias G,Casas J,Morales A,Hernandez G,Acosta NG,Rodriguez C,Prieto-Valiente L,Garcia-Segura LM,Alonso R,Wandosell FG PubMed Article URL: <a href="http://dx.doi.org/10.3389/fncel.2018.00103">http://dx.doi.org/10.3389/fncel.2018.00103</a>
Human / Not Cited	Chemistry & biology ( 2005; 12: 811) <b>"Defining Cdk5 ligand chemical space with small molecule inhibitors of tau phosphorylation."</b> Author(s):Ahn JS,Radhakrishnan ML,Mapelli M,Choi S,Tidor B,Cuny GD,Musacchio A,Yeh LA,Kosik KS PubMed Article URL: <a href="http://dx.doi.org/10.1016/j.chembiol.2005.05.011">http://dx.doi.org/10.1016/j.chembiol.2005.05.011</a>
Mouse / Not Cited	The Journal of biological chemistry ( 2003; 278: 10506) <b>"Tau phosphorylation by cyclin-dependent kinase 5/p39 during brain development reduces its affinity for microtubules."</b> Author(s):Takahashi S,Saito T,Hisanaga S,Pant HC,Kulkarni AB PubMed Article URL: <a href="http://dx.doi.org/10.1074/jbc.M211964200">http://dx.doi.org/10.1074/jbc.M211964200</a>
Human / Not Cited	AHB0042 was used in Western Blot to determine the effect of spatial dysregulation of cyclin-dependent kinase 5 in the striatum. Proceedings of the National Academy of Sciences of the United States of America ( 2008; 105: 18561) <b>"Striatal dysregulation of Cdk5 alters locomotor responses to cocaine, motor learning, and dendritic morphology."</b> Author(s):Meyer DA,Richer E,Benkovic SA,Hayashi K,Kansy JW,Hale CF,Moy LY,Kim Y,O'Callaghan JP,Tsai LH,Greengard P,Nairn AC,Cowan CW,Miller DB,Antich P,Bibb JA PubMed Article URL: <a href="http://dx.doi.org/10.1073/pnas.0806078105">http://dx.doi.org/10.1073/pnas.0806078105</a>

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	AHB0042 was used in Western Blotting to investigate to what extent tau cleavage and the generation of the neurotoxic tau45-230 fragment is associated with amyotrophic lateral sclerosis.
Human / Not Cited Mouse / Not Cited	Molecular medicine (Cambridge, Mass.) ( 2016; 22: 477) <b>"The Neurotoxic TAU&lt;sub&gt;45-230&lt;/sub&gt; Fragment Accumulates in Upper and Lower Motor Neurons in Amyotrophic Lateral Sclerosis Subjects."</b> Author(s):Vintilescu CR,Afreen S,Rubino AE,Ferreira A PubMed Article URL: <a href="http://dx.doi.org/10.2119/molmed.2016.00095">http://dx.doi.org/10.2119/molmed.2016.00095</a>
	AHB0042 was used in Western Blotting to investigate the effects, in normothermic conditions, of acute or repeated exposure to sevoflurane on hippocampal tau phosphorylation and spatial memory in adult mice.
Human / Not Cited	Anesthesiology ( 2012; 116: 779) <b>"Tau phosphorylation and sevoflurane anesthesia: an association to postoperative cognitive impairment."</b> Author(s):Le Freche H,Brouillette J,Fernandez-Gomez FJ,Patin P,Caillierez R,Zommer N,Sergeant N,Buée-Scherrer V, Lebuffe G,Blum D,Buée L PubMed Article URL: <a href="http://dx.doi.org/10.1097/ALN.0b013e31824be8c7">http://dx.doi.org/10.1097/ALN.0b013e31824be8c7</a>
Rat / Not Cited	Toxicological sciences : an official journal of the Society of Toxicology ( 2012; 126: 506) <b>"Differing effects of toxicants (methylmercury, inorganic mercury, lead, amyloid , and rotenone) on cultured rat cerebrocortical neurons: differential expression of rho proteins associated with neurotoxicity."</b> Author(s):Fujimura M,Usuki F PubMed Article URL: <a href="http://dx.doi.org/10.1093/toxsci/kfr352">http://dx.doi.org/10.1093/toxsci/kfr352</a>
	AHB0042 was used in western blot to test if BAG2 mediates the cold-induced accumulation of phosphorylated tau protein.
Human / Not Cited	Cellular and molecular neurobiology ( 2016; 36: 593) <b>"The Co-chaperone BAG2 Mediates Cold-Induced Accumulation of Phosphorylated Tau in SH-SY5Y Cells."</b> Author(s):de Paula CA,Santiago FE,de Oliveira AS,Oliveira FA,Almeida MC,Carrettiero DC PubMed Article URL: <a href="http://dx.doi.org/10.1007/s10571-015-0239-x">http://dx.doi.org/10.1007/s10571-015-0239-x</a>
	AHB0042 was used in western blot to test if -amyloid accumulation affects prion infectivity and if different amounts of PrP affect -amyloid accumulation.
Mouse / Not Cited	Neurobiology of aging ( 2013; 34: 2793) <b>"Cellular prion protein modulates -amyloid deposition in aged APP/PS1 transgenic mice."</b> Author(s):Ordóñez-Gutiérrez L,Torres JM,Gavín R,Antón M,Arroba-Espinosa AI,Espinosa JC,Vergara C,Del Río JA, Wandosell F PubMed Article URL: <a href="http://dx.doi.org/10.1016/j.neurobiolaging.2013.05.019">http://dx.doi.org/10.1016/j.neurobiolaging.2013.05.019</a>
	AHB0042 was used in western blot to assess the effects lithium chloride on cold water stress-induced changes in tau phosphorylation in the mouse hippocampus
Not Applicable / Not Cited	Journal of neural transmission (Vienna, Austria : 1996) ( 2006; 113: 1803) <b>"Lithium inhibits stress-induced changes in tau phosphorylation in the mouse hippocampus."</b> Author(s):Yoshida S,Maeda M,Kaku S,Ikeya H,Yamada K,Nakaike S PubMed Article URL: <a href="http://dx.doi.org/10.1007/s00702-006-0528-0">http://dx.doi.org/10.1007/s00702-006-0528-0</a>
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	AHB0042 was used in Western Blot to identify Fyn as a key regulator of tau pathology independently of A-induced toxicity.
Mouse / 1:5000	Cell reports ( 2020; 32: ) <b>"Fyn Kinase Controls Tau Aggregation In Vivo."</b> Author(s):Briner A,Götz J,Polanco JC PubMed Article URL: <a href="http://dx.doi.org/10.1016/j.celrep.2020.108045">http://dx.doi.org/10.1016/j.celrep.2020.108045</a>
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Mouse / Not Cited	Frontiers in molecular neuroscience ( 2020; 10: ) <b>"Whole Genome Expression Analysis in a Mouse Model of Tauopathy Identifies MECP2 as a Possible Regulator of Tau Pathology."</b> Author(s):Maphis NM,Jiang S,Binder J,Wright C,Gopalan B,Lamb BT,Bhaskar K PubMed Article URL: <a href="http://dx.doi.org/10.3389/fnmol.2017.00069">http://dx.doi.org/10.3389/fnmol.2017.00069</a>
	AHB0042 was used in Western Blotting to support increased neuronal proteins in dystrophic nerves as a novel pre-clinical readout of ongoing myonecrosis for DMD research.
Mouse / Not Cited	Molecular and cellular neurosciences ( 2020; 108: ) <b>"Dystrophic Dmd&lt;sup&gt;mdx&lt;/sup&gt; rats show early neuronal changes (increased S100 and Tau5) at 8 months, supporting severe dystrotophology in this rodent model of Duchenne muscular dystrophy."</b> Author(s):Krishnan VS,Thanigaiarasu LP,White R,Crew R,Larcher T,Le Guiner C,Grounds MD PubMed Article URL: <a href="http://dx.doi.org/10.1016/j.mcn.2020.103549">http://dx.doi.org/10.1016/j.mcn.2020.103549</a>

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	AHB0042 was used in western blot to elucidate how liraglutide affects disease and cognitive function in a mouse model of Alzheimer disease
Mouse / 1:1000	Neurochemical research ( 2017; 42: 2326) <b>"Liraglutide Improves Water Maze Learning and Memory Performance While Reduces Hyperphosphorylation of Tau and Neurofilaments in APP/PS1/Tau Triple Transgenic Mice."</b> Author(s):Chen S,Sun J,Zhao G,Guo A,Chen Y,Fu R,Deng Y PubMed Article URL: <a href="http://dx.doi.org/10.1007/s11064-017-2250-8">http://dx.doi.org/10.1007/s11064-017-2250-8</a>
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Human / Not Cited	Scientific reports ( 2015; 5: ) <b>"Facilitated Tau Degradation by USP14 Aptamers via Enhanced Proteasome Activity."</b> Author(s):Lee JH,Shin SK,Jiang Y,Choi WH,Hong C,Kim DE,Lee MJ PubMed Article URL: <a href="http://dx.doi.org/10.1038/srep10757">http://dx.doi.org/10.1038/srep10757</a>
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Human / 1:500	The European journal of neuroscience ( 2011; 33: 1598) <b>"Hyperphosphorylated Tau in an -synuclein-overexpressing transgenic model of Parkinson's disease."</b> Author(s):Haggerty T,Credle J,Rodriguez O,Wills J,Oaks AW,Masliah E,Sidhu A PubMed Article URL: <a href="http://dx.doi.org/10.1111/j.1460-9568.2011.07660.x">http://dx.doi.org/10.1111/j.1460-9568.2011.07660.x</a>
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Not Applicable / 1:1000	Toxicology ( 2009; 255: 65) <b>"2,3,7,8-TCDD neurotoxicity in neuroblastoma cells is caused by increased oxidative stress, intracellular calcium levels, and tau phosphorylation."</b> Author(s):Sul D,Kim HS,Cho EK,Lee M,Kim HS,Jung WW,Hwang KW,Park SY PubMed Article URL: <a href="http://dx.doi.org/10.1016/j.tox.2008.10.006">http://dx.doi.org/10.1016/j.tox.2008.10.006</a>
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Mouse / 1:4000	The Journal of neuroscience : the official journal of the Society for Neuroscience ( 2022; 42: 3494) <b>"Improved Sleep, Memory, and Cellular Pathological Features of Tauopathy, Including the NLRP3 Inflammasome, after Chronic Administration of Trazodone in rTg4510 Mice."</b> Author(s):de Oliveira P,Cella C,Locker N,Ravindran KKG,Mendis A,Wafford K,Gilmour G,Dijk DJ,Winsky-Sommerer R PubMed Article URL: <a href="http://dx.doi.org/10.1523/JNEUROSCI.2162-21.2022">http://dx.doi.org/10.1523/JNEUROSCI.2162-21.2022</a>
	AHB0042 was used in western blot to investigate the abnormalities in hippocampal energy metabolism in the pathogenesis of Alzheimer disease
Mouse / Not Cited	Biochimica et biophysica acta ( 2014; 1842: 1556) <b>"Early alterations in energy metabolism in the hippocampus of APP<sup>swe</sup>/PS1<sup>dE9</sup> mouse model of Alzheimer's disease."</b> Author(s):Pedrós I,Petrov D,Algaier M,Sureda F,Barroso E,Beas-Zarate C,Auladell C,Pallàs M,Vázquez-Carrera M,Casadesús G,Folch J,Camins A PubMed Article URL: <a href="http://dx.doi.org/10.1016/j.bbadis.2014.05.025">http://dx.doi.org/10.1016/j.bbadis.2014.05.025</a>
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Human / Not Cited	Molecular neurodegeneration ( 2016; 11: ) <b>"Acetylated tau destabilizes the cytoskeleton in the axon initial segment and is mislocalized to the somatodendritic compartment."</b> Author(s):Sohn PD,Tracy TE,Son HI,Zhou Y,Leite RE,Miller BL,Seeley WW,Grinberg LT,Gan L PubMed Article URL: <a href="http://dx.doi.org/10.1186/s13024-016-0109-0">http://dx.doi.org/10.1186/s13024-016-0109-0</a>
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Human / 1:20000	The Journal of biological chemistry ( 2021; 297: ) <b>"Structural mapping techniques distinguish the surfaces of fibrillar 1N3R and 1N4R human tau."</b> Author(s):Caroux E,Redeker V,Madiona K,Melki R PubMed Article URL: <a href="http://dx.doi.org/10.1016/j.jbc.2021.101252">http://dx.doi.org/10.1016/j.jbc.2021.101252</a>
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Not Applicable / Not Cited	Life sciences ( 2016; 151: 130) <b>"Pulsed electromagnetic fields promote survival and neuronal differentiation of human BM-MSCs."</b> Author(s):Urnukhsaikhan E,Cho H,Mishig-Ochir T,Seo YK,Park JK PubMed Article URL: <a href="http://dx.doi.org/10.1016/j.lfs.2016.02.066">http://dx.doi.org/10.1016/j.lfs.2016.02.066</a>

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	AHB0042 was used in Western Blot to demonstrate a simple and precise method to simultaneously generate iPSC lines with different gene dosages using paired Cas9 nickases.
Human / 1:20000	Communications biology ( 2021; 4: ) <b>"Efficient manipulation of gene dosage in human iPSCs using CRISPR/Cas9 nickases."</b> Author(s):Ye T,Duan Y,Tsang HWS,Xu H,Chen Y,Cao H,Chen Y,Fu AKY,Ip NY PubMed Article URL: <a href="http://dx.doi.org/10.1038/s42003-021-01722-0">http://dx.doi.org/10.1038/s42003-021-01722-0</a>
	AHB0042 was used in Western Blotting to discover whether tau biosensors capable of monitoring tau oligomer conformation are able to identify tool compounds that modulate the structure and conformation of these tau assemblies, providing key insight into the unique structural fingerprints of toxic tau oligomers.
Human / Not Cited	Alzheimer's & dementia : the journal of the Alzheimer's Association ( 2019; 15: 1489) <b>"Targeting the ensemble of heterogeneous tau oligomers in cells: A novel small molecule screening platform for tauopathies."</b> Author(s):Lo CH,Lim CK,Ding Z,Wickramasinghe SP,Braun AR,Ashe KH,Rhoades E,Thomas DD,Sachs JN PubMed Article URL: <a href="http://dx.doi.org/10.1016/j.jalz.2019.06.4954">http://dx.doi.org/10.1016/j.jalz.2019.06.4954</a>
	AHB0042 was used in immunohistochemistry - paraffin section and western blot to evaluate motor function and tau pathology of P301S tau transgenic mice
Not Applicable / 1:1000	Molecular neurodegeneration ( 2014; 9: ) <b>"Long-term treadmill exercise attenuates tau pathology in P301S tau transgenic mice."</b> Author(s):Ohia-Nwoko O,Montazari S,Lau YS,Eriksen JL PubMed Article URL: <a href="http://dx.doi.org/10.1186/1750-1326-9-54">http://dx.doi.org/10.1186/1750-1326-9-54</a>
	AHB0042 was used in western blot to elucidate the neuroprotective mechanisms by which curcumin protects against Abeta-induced toxicity
Not Applicable / 1:1000	Food and chemical toxicology : an international journal published for the British Industrial Biological Research Association ( 2008; 46: 2881) <b>"Curcumin protected PC12 cells against beta-amyloid-induced toxicity through the inhibition of oxidative damage and tau hyperphosphorylation."</b> Author(s):Park SY,Kim HS,Cho EK,Kwon BY,Phark S,Hwang KW,Sul D PubMed Article URL: <a href="http://dx.doi.org/10.1016/j.fct.2008.05.030">http://dx.doi.org/10.1016/j.fct.2008.05.030</a>
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Not Applicable / 1:5000	Journal of neuroinflammation ( 2015; 12: ) <b>"Ccr2 deletion dissociates cavity size and tau pathology after mild traumatic brain injury."</b> Author(s):Gyoneva S,Kim D,Katsumoto A,Kokiko-Cochran ON,Lamb BT,Ransohoff RM PubMed Article URL: <a href="http://dx.doi.org/10.1186/s12974-015-0443-0">http://dx.doi.org/10.1186/s12974-015-0443-0</a>

1 Dot blot References	
Species / Dilution	Summary
	AHB0042 was used in Dot blot to suggest that conformation-specific antibodies targeting -synuclein aggregates are promising therapeutic agents for PD and related synucleinopathies.
Mouse / Not Cited	Experimental neurobiology ( 2022; 31: 29) <b>"Conformation-specific Antibodies Targeting Aggregated Forms of -synuclein Block the Propagation of Synucleinopathy."</b> Author(s):Choi M,Kim TK,Ahn J,Lee JS,Jung BC,An S,Kim D,Lee MJ,Mook-Jung I,Lee SH,Lee SJ PubMed Article URL: <a href="http://dx.doi.org/10.5607/en21039">http://dx.doi.org/10.5607/en21039</a>

1 Immunoelectrophoresis References	
Species / Dilution	Summary
	AHB0042 was used in Immunoelectrophoresis to suggest that PTM profiles occur through the post-translational control of the master PTM remodeling enzymes themselves.
Human / 1:1000	The Journal of biological chemistry ( 2022; 298: ) <b>"Identification of a reciprocal negative feedback loop between tau-modifying proteins MARK2 kinase and CBP acetyltransferase."</b> Author(s):Tabassum Z,Tseng JH,Isemann C,Tian X,Chen Y,Herring LE,Cohen TJ PubMed Article URL: <a href="http://dx.doi.org/10.1016/j.jbc.2022.101977">http://dx.doi.org/10.1016/j.jbc.2022.101977</a>

5 Immunoprecipitation References	
Species / Dilution	Summary

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	AHB0042 was used in IP/Western Blotting to identify molecules which may provide new tools to study a neuronal migration and cortical plate development.
Mouse / Not Cited	Cerebral cortex (New York, N.Y. : 1991) ( 2007; 17: 211) <b>"Identification of small molecules that interfere with radial neuronal migration and early cortical plate development."</b> Author(s):Zhou L,Jossin Y,Goffinet AM PubMed Article URL: <a href="http://dx.doi.org/10.1093/cercor/bhj139">http://dx.doi.org/10.1093/cercor/bhj139</a>
	AHB0042 was used in Immunoprecipitation to show that Rac1 levels decreased in the frontal cortex of Alzheimer's disease patients compared to non-demented controls.
Mouse / 1:1,000	Acta neuropathologica communications ( 2018; 6: ) <b>"Rac1 activation links tau hyperphosphorylation and A dysmetabolism in Alzheimer's disease."</b> Author(s):Borin M,Saraceno C,Catania M,Lorenzetto E,Pontelli V,Paterlini A,Fostinelli S,Avesani A,Di Fede G,Zanusso G, Benussi L,Binetti G,Zorzan S,Ghidoni R,Buffelli M,Bolognin S PubMed Article URL: <a href="http://dx.doi.org/10.1186/s40478-018-0567-4">http://dx.doi.org/10.1186/s40478-018-0567-4</a>
	AHB0042 was used in Immunoprecipitation to identify salivary Tau species as potential biomarkers of Alzheimer's disease.
Human / Not Cited	Journal of Alzheimer's disease : JAD ( 2012; 27: 299) <b>"Salivary tau species are potential biomarkers of Alzheimer's disease."</b> Author(s):Shi M,Sui YT,Peskind ER,Li G,Hwang H,Devic I,Ginghina C,Edgar JS,Pan C,Goodlett DR,Furay AR,Gonzalez-Cuyar LF,Zhang J PubMed Article URL: <a href="http://dx.doi.org/10.3233/JAD-2011-110731">http://dx.doi.org/10.3233/JAD-2011-110731</a>
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Human / Not Cited	PloS one ( 2007; 2: ) <b>"Mitochondrial oxidative stress causes hyperphosphorylation of tau."</b> Author(s):Melov S,Adlard PA,Morten K,Johnson F,Golden TR,Hinerfeld D,Schilling B,Mavros C,Masters CL,Volitakis I,Li QX,Laughton K,Hubbard A,Cherny RA,Gibson B,Bush AI PubMed Article URL: <a href="http://dx.doi.org/10.1371/journal.pone.0000536">http://dx.doi.org/10.1371/journal.pone.0000536</a>
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Mouse / 1:1000	Neuron ( 2020; 106: 421) <b>"Tau Reduction Prevents Key Features of Autism in Mouse Models."</b> Author(s):Tai C,Chang CW,Yu GQ,Lopez I,Yu X,Wang X,Guo W,Mucke L PubMed Article URL: <a href="http://dx.doi.org/10.1016/j.neuron.2020.01.038">http://dx.doi.org/10.1016/j.neuron.2020.01.038</a>
<b>1 in situ PLA References</b>	
<b>Species / Dilution</b>	<b>Summary</b>
	AHB0042 was used in Proximity Ligation Assay (PLA) to suggest an enabling role of tau in the pathogenesis of autism and identify tau reduction as a potential therapeutic strategy for some of the disorders that cause this condition.
Mouse / 1:4000	Neuron ( 2020; 106: 421) <b>"Tau Reduction Prevents Key Features of Autism in Mouse Models."</b> Author(s):Tai C,Chang CW,Yu GQ,Lopez I,Yu X,Wang X,Guo W,Mucke L PubMed Article URL: <a href="http://dx.doi.org/10.1016/j.neuron.2020.01.038">http://dx.doi.org/10.1016/j.neuron.2020.01.038</a>
<b>8 Immunohistochemistry References</b>	
<b>Species / Dilution</b>	<b>Summary</b>
	AHB0042 was used in Immunohistochemistry to show that the hydrophobic patches of aggregates from acetylated peptides were different when compared to wild-type (WT) peptide.
Rat / 1:200	ACS chemical neuroscience ( 2020; 11: 1178) <b>"Acetylation of A42 at Lysine 16 Disrupts Amyloid Formation."</b> Author(s):Adhikari R,Yang M,Saikia N,Dutta C,Alharbi WFA,Shan Z,Pandey R,Tiwari A PubMed Article URL: <a href="http://dx.doi.org/10.1021/acchemneuro.0c00069">http://dx.doi.org/10.1021/acchemneuro.0c00069</a>
	AHB0042 was used in Immunohistochemistry to study the pathological association of tau dynamics in both cerebral ischemia and Alzheimer's disease.
Rat / 1:400	Journal of cerebral blood flow and metabolism : official journal of the International Society of Cerebral Blood Flow and Metabolism ( 2017; 37: 2441) <b>"Modifications of tau protein after cerebral ischemia and reperfusion in rats are similar to those occurring in Alzheimer's disease - Hyperphosphorylation and cleavage of 4- and 3-repeat tau."</b> Author(s):Fujii H,Takahashi T,Mukai T,Tanaka S,Hosomi N,Maruyama H,Sakai N,Matsumoto M PubMed Article URL: <a href="http://dx.doi.org/10.1177/0271678X16668889">http://dx.doi.org/10.1177/0271678X16668889</a>

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	AHB0042 was used in Immunohistochemistry to determine how flux through specific ion channels contributes to the various pathologies, using partial optic nerve transection in adult female rats to model secondary degeneration following neurotrauma.
Rat / 1:400	BMC neuroscience ( 2017; 18: ) <b>"Specific ion channels contribute to key elements of pathology during secondary degeneration following neurotrauma."</b> Author(s):O'Hare Doig RL,Chiha W,Giacchi MK,Yates NJ,Bartlett CA,Smith NM,Hodgetts SI,Harvey AR,Fitzgerald M PubMed Article URL: <a href="http://dx.doi.org/10.1186/s12868-017-0380-1">http://dx.doi.org/10.1186/s12868-017-0380-1</a>
Not Applicable / Not Cited	AHB0042 was used in immunohistochemistry to determine the distribution of tauopathy in different regions of the brain using the alpha-Syn overexpressing mouse model  BMC neuroscience ( 2011; 12: ) <b>"Region-specific tauopathy and synucleinopathy in brain of the alpha-synuclein overexpressing mouse model of Parkinson's disease."</b> Author(s):Kaul T,Credle J,Haggerty T,Oaks AW,Masliah E,Sidhu A PubMed Article URL: <a href="http://dx.doi.org/10.1186/1471-2202-12-79">http://dx.doi.org/10.1186/1471-2202-12-79</a>
Mouse / 1:3000	AHB0042 was used in immunohistochemistry to assess if tau reduction benefits intractable genetic epilepsies  Annals of neurology ( 2014; 76: 443) <b>"Tau reduction prevents disease in a mouse model of Dravet syndrome."</b> Author(s):Gheyara AL,Ponnusamy R,Djukic B,Craft RJ,Ho K,Guo W,Finucane MM,Sanchez PE,Mucke L PubMed Article URL: <a href="http://dx.doi.org/10.1002/ana.24230">http://dx.doi.org/10.1002/ana.24230</a>
Human / Not Cited	Acta neuropathologica ( 2002; 103: 599) <b>"Ubiquitin-positive neuronal and tau 2-positive glial inclusions in frontotemporal dementia of motor neuron type."</b> Author(s):Forno LS,Langston JW,Herrick MK,Wilson JD,Murayama S PubMed Article URL: <a href="http://dx.doi.org/10.1007/s00401-001-0509-1">http://dx.doi.org/10.1007/s00401-001-0509-1</a>
Not Applicable / 1:2000	AHB0042 was used in immunohistochemistry to examine the brains of 6-month-old rats treated neonatally with the glutamatergic beta-N-methylamino-L-alanine  Toxicological sciences : an official journal of the Society of Toxicology ( 2012; 130: 391) <b>"Neonatal exposure to the cyanobacterial toxin BMAA induces changes in protein expression and neurodegeneration in adult hippocampus."</b> Author(s):Karlsson O,Berg AL,Lindström AK,Hanrieder J,Arnerup G,Roman E,Bergquist J,Lindquist NG,Brittebo EB,Andersson M PubMed Article URL: <a href="http://dx.doi.org/10.1093/toxsci/kfs241">http://dx.doi.org/10.1093/toxsci/kfs241</a>
Mouse / 1:250	AHB0042 was used in Immunohistochemistry to develop a model of organotypic brain slices in which the interactions between amyloid-beta and tau in both plaque and tau pathology can be examined.  Frontiers in aging neuroscience ( 2020; 10: ) <b>"Differential Hyperphosphorylation of Tau-S199, -T231 and -S396 in Organotypic Brain Slices of Alzheimer Mice. A Model to Study Early Tau Hyperphosphorylation Using Okadaic Acid."</b> Author(s):Foidl BM,Humpel C PubMed Article URL: <a href="http://dx.doi.org/10.3389/fnagi.2018.00113">http://dx.doi.org/10.3389/fnagi.2018.00113</a>
<b>5 Immunocytochemistry References</b>	
Species / Dilution	Summary
Mouse / Not Cited	AHB0042 was used in Immunoprecipitation to show that Rac1 levels decreased in the frontal cortex of Alzheimer's disease patients compared to non-demented controls.  Acta neuropathologica communications ( 2018; 6: ) <b>"Rac1 activation links tau hyperphosphorylation and A dysmetabolism in Alzheimer's disease."</b> Author(s):Borin M,Saraceno C,Catania M,Lorenzetto E,Pontelli V,Paterlini A,Fostinelli S,Avesani A,Di Fede G,Zanusso G,Benussi L,Binetti G,Zorzan S,Ghidoni R,Buffelli M,Bolognin S PubMed Article URL: <a href="http://dx.doi.org/10.1186/s40478-018-0567-4">http://dx.doi.org/10.1186/s40478-018-0567-4</a>
Rat / 1:1,000	AHB0042 was used in Immunocytochemistry-immunofluorescence to provide further insights into the potential molecular mechanisms underlying the effects of agrin on neurite outgrowth in rat central neurons.  Neuroscience ( 2007; 149: 527) <b>"Agrin induced morphological and structural changes in growth cones of cultured hippocampal neurons."</b> Author(s):Bergstrom RA,Sinjoanu RC,Ferreira A PubMed Article URL: <a href="http://dx.doi.org/10.1016/j.neuroscience.2007.08.017">http://dx.doi.org/10.1016/j.neuroscience.2007.08.017</a>
Non-human primate / Not Cited	Toxicologic pathology ( 2007; 35: 972) <b>"Expression of serine/threonine protein-kinases and related factors in normal monkey and human retinas: the mechanistic understanding of a CDK2 inhibitor induced retinal toxicity."</b> Author(s):Saturno G,Pesenti M,Cavazzoli C,Rossi A,Giusti AM,Gierke B,Pawlak M,Venturi M PubMed Article URL: <a href="http://dx.doi.org/10.1080/01926230701748271">http://dx.doi.org/10.1080/01926230701748271</a>
Human / Not Cited	

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Human / Not Cited	Molecular biology of the cell ( 2004; 15: 2720) <b>"Modulation of microtubule dynamics by tau in living cells: implications for development and neurodegeneration."</b> Author(s):Bunker JM,Wilson L,Jordan MA,Feinstein SC PubMed Article URL: <a href="http://dx.doi.org/10.1091/mbc.e04-01-0062">http://dx.doi.org/10.1091/mbc.e04-01-0062</a>
Rat / Not Cited	The EMBO journal ( 2005; 24: 209) <b>"A Cdk5 inhibitory peptide reduces tau hyperphosphorylation and apoptosis in neurons."</b> Author(s):Zheng YL,Kesavapany S,Gravell M,Hamilton RS,Schubert M,Amin N,Albers W,Grant P,Pant HC PubMed Article URL: <a href="http://dx.doi.org/10.1038/sj.emboj.7600441">http://dx.doi.org/10.1038/sj.emboj.7600441</a>

## 2 Immunohistochemistry (Frozen) References

Species / Dilution	Summary
	AHB0042 was used in immunohistochemistry - frozen section and western blot to utilize a time course study of sciatic nerves from aging mice to gain a neurogenic perspective of sarcopenia
Not Applicable / 1:500	Journal of neuropathology and experimental neurology ( 2016; 75: 464) <b>"A Neurogenic Perspective of Sarcopenia: Time Course Study of Sciatic Nerves From Aging Mice."</b> Author(s):Krishnan VS,White Z,McMahon CD,Hodgetts SI,Fitzgerald M,Shavlakadze T,Harvey AR,Grounds MD PubMed Article URL: <a href="http://dx.doi.org/10.1093/jnen/nlw019">http://dx.doi.org/10.1093/jnen/nlw019</a>
	AHB0042 was used in immunohistochemistry - frozen section to investigate the expression patterns of HA synthases in the murine central nervous system
Mouse / 1:100	Journal of Alzheimer's disease : JAD ( 2018; 57: 395) <b>"Tau Pathology Promotes the Reorganization of the Extracellular Matrix and Inhibits the Formation of Perineuronal Nets by Regulating the Expression and the Distribution of Hyaluronic Acid Synthases."</b> Author(s):Li Y,Li ZX,Jin T,Wang ZY,Zhao P PubMed Article URL: <a href="http://dx.doi.org/10.3233/JAD-160804">http://dx.doi.org/10.3233/JAD-160804</a>

## 5 Miscellaneous PubMed References

Species / Dilution	Summary
	AHB0042 was used in western blot to investigate the role of channel gating in mammalian proteasomes
Human / 1:10,000	Nature communications ( 2016; 7: ) <b>"Open-gate mutants of the mammalian proteasome show enhanced ubiquitin-conjugate degradation."</b> Author(s):Choi WH,de Poot SA,Lee JH,Kim JH,Han DH,Kim YK,Finley D,Lee MJ PubMed Article URL: <a href="http://dx.doi.org/10.1038/ncomms10963">http://dx.doi.org/10.1038/ncomms10963</a>
	AHB0042 was used in immunohistochemistry - paraffin section and western blot to elucidate the molecular mechanisms of ischemic tolerance
Rat / 1:1000	Neurological sciences : official journal of the Italian Neurological Society and of the Italian Society of Clinical Neurophysiology ( 2011; 32: 229) <b>"Ischemic preconditioning attenuates of ischemia-induced degradation of spectrin and tau: implications for ischemic tolerance."</b> Author(s):Nakajima T,Ochi S,Oda C,Ishii M,Ogawa K PubMed Article URL: <a href="http://dx.doi.org/10.1007/s10072-010-0359-5">http://dx.doi.org/10.1007/s10072-010-0359-5</a>
	AHB0042 was used in western blot to test if calpain cleave the cyclin-dependent kinase 5 activator p35 to a p25 fragment and results in tau hyperphosphorylation.
Rat / Not Cited	Biochemical and biophysical research communications ( 2002; 298: 693) <b>"Cleavage of the cyclin-dependent kinase 5 activator p35 to p25 does not induce tau hyperphosphorylation."</b> Author(s):Kerokoski P,Suuronen T,Salminen A,Soininen H,Pirttilä T PubMed Article URL: <a href="http://dx.doi.org/10.1016/s0006-291x(02)02543-3">http://dx.doi.org/10.1016/s0006-291x(02)02543-3</a>
	AHB0042 was used in western blot to investigate the contribution of Ang II to Alzheimer disease.
Mouse / Not Cited	FEBS letters ( 2012; 586: 3737) <b>"Central angiotensin II-induced Alzheimer-like tau phosphorylation in normal rat brains."</b> Author(s):Tian M,Zhu D,Xie W,Shi J PubMed Article URL: <a href="http://dx.doi.org/10.1016/j.febslet.2012.09.004">http://dx.doi.org/10.1016/j.febslet.2012.09.004</a>
	AHB0042 was used in immunohistochemistry (frozen) to study the composition of pathological granules that appear in degenerative brain diseases.
Mouse / Not Cited	Age (Dordrecht, Netherlands) ( 2014; 36: 151) <b>"Presence of a neo-epitope and absence of amyloid beta and tau protein in degenerative hippocampal granules of aged mice."</b> Author(s):Manich G,del Valle J,Cabezón I,Camins A,Pallàs M,Pelegri C,Vilaplana J PubMed Article URL: <a href="http://dx.doi.org/10.1007/s11357-013-9560-9">http://dx.doi.org/10.1007/s11357-013-9560-9</a>

## 2 ELISA References

Species / Dilution	Summary
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AHB0042 was used in ELISA to test if HFE polymorphisms are associated with alterations in tau phosphorylation in a human neuroblastoma cell line

Not Applicable / Not Cited

Neurobiology of aging ( 2011; 32: 1409)  
**"Expression of the HFE allelic variant H63D in SH-SY5Y cells affects tau phosphorylation at serine residues."**  
Author(s):Hall EC, Lee SY, Mairuae N, Simmons Z, Connor JR  
PubMed Article URL:<http://dx.doi.org/10.1016/j.neurobiolaging.2009.08.012>

Human / Not Cited

Journal of biomolecular screening ( 2004; 9: 122)  
**"Development of an assay to screen for inhibitors of tau phosphorylation by cdk5."**  
Author(s):Ahn JS, Musacchio A, Mapelli M, Ni J, Scinto L, Stein R, Kosik KS, Yeh LA  
PubMed Article URL:<http://dx.doi.org/10.1177/1087057103260594>

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