Phospho-Tau (Thr181) Monoclonal Antibody
(Received 327445)

Catalog Number MN1050

**Details**
- **Size**: 100 µg
- **Host/Isotope**: Mouse / IgG1, kappa
- **Class**: Monoclonal
- **Type**: Antibody
- **Clone**: AT270
- **Immunogen**: Partially purified human PHF-Tau
- **Conjugate**: Unconjugated
- **Form**: Liquid
- **Concentration**: 0.2 mg/mL
- **Purification**: Protein A
- **Storage buffer**: PBS
- **Contains**: no preservative
- **Storage Conditions**: -20°C, Avoid Freeze/Thaw Cycles

**Species Reactivity**
- **Species Reactivity**: Human
- **Published species**: Rat, Fruit fly, Non-human primate, Hamster, Human, Mouse, Chicken, Not Applicable

**Tested Applications**
- **ELISA (ELISA)**: 2-10 µg/mL
- **Immunohistochemistry (Paraffin)**: 1-5 µg/mL
- **Western Blot (WB)**: 1-5 µg/mL

**Published Applications**
- **Western Blot (WB)**: See 75 publications below
- **Functional Assay (FN)**: See 1 publications below
- **Immunohistochemistry (Paraffin)**: See 2 publications below
- **Immunohistochemistry (IHC)**: See 21 publications below
- **Immunocytochemistry (ICC/IF)**: See 3 publications below
- **Immunoprecipitation (IP)**: See 2 publications below
- **ELISA (ELISA)**: See 4 publications below
- **Miscellaneous PubMed (Misc)**: See 6 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.**

**Product Specific Information**

MN1050 recognizes PHF-Tau, tangles and neurofilaments. Cross reacts weakly with normal Tau. Does not cross react with recombinant unphosphorylated Tau. The epitope of this antibody is the phosphorylated Thr181 residue (numbering according to human Tau40). MN1050 detects PHF-tau (Thr181) which has a predicted molecular weight of approximately 79 kDa. Purity is >95% as determined by SDS-PAGE.

**Background/Target Information**

Tau is a neuronal microtubule-associate 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 hyperphosphorylated form, Tau is the major component of paired helical filaments (PHF), the building block of neurofibrillary lesions in Alzheimer’s disease (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.

<table>
<thead>
<tr>
<th>Species / Dilution</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mouse / 1:500</td>
<td>MN1050 was used in western blot to generate a novel humanized murine model of Alzheimer's disease that does not rely on mutant protein overexpression.</td>
</tr>
<tr>
<td></td>
<td>PloS one (Dec 2014; 8) &quot;Modeling Alzheimer's disease in mouse without mutant protein overexpression: cooperative and independent effects of A and tau.&quot;</td>
</tr>
<tr>
<td></td>
<td>Author(s): Guo Q, Li H, Cole AL, Hur JY, Li Y, Zheng H</td>
</tr>
<tr>
<td></td>
<td>PubMed Article URL: <a href="http://dx.doi.org/10.1371/journal.pone.0080706">http://dx.doi.org/10.1371/journal.pone.0080706</a></td>
</tr>
<tr>
<td>Human / Not Cited</td>
<td>MN1050 was used in western blot to investigate the effect of novel tau mutations on its interaction with membrane</td>
</tr>
<tr>
<td></td>
<td>The Journal of cell biology (Feb 2011; 192: 647) &quot;The frontotemporal dementia mutation R406W blocks tau's interaction with the membrane in an annexin A2-dependent manner.&quot;</td>
</tr>
<tr>
<td></td>
<td>PubMed Article URL: <a href="http://dx.doi.org/10.1083/jcb.201007161">http://dx.doi.org/10.1083/jcb.201007161</a></td>
</tr>
<tr>
<td>Mouse / 1:200</td>
<td>MN1050 was used in western blot to discuss the contribution of 12/15-lipoxygenase to Alzheimer's disease.</td>
</tr>
<tr>
<td></td>
<td>Biological psychiatry (Jan 2017; 81: 92) &quot;12/15-Lipoxygenase Inhibition Reverses Cognitive Impairment, Brain Amyloidosis, and Tau Pathology by Stimulating Autophagy in Aged Triple Transgenic Mice.&quot;</td>
</tr>
<tr>
<td></td>
<td>Author(s): Di Meco A, Li JG, Blass BE, Abou-Gharbia M, Laurenti E, Praticò D</td>
</tr>
<tr>
<td></td>
<td>PubMed Article URL: <a href="http://dx.doi.org/10.1016/j.biopsych.2016.05.023">http://dx.doi.org/10.1016/j.biopsych.2016.05.023</a></td>
</tr>
<tr>
<td>Fruit fly / 1:1000</td>
<td>MN1050 was used in Western Blot to demonstrate that UBE4B, a miR-9 target gene, promotes autophagy-mediated Tau degradation together with STUB1, and is thus an innovative therapeutic approach for AD.</td>
</tr>
<tr>
<td></td>
<td>Author(s): Subramanian M, Hyeon SJ, Das T, Suh YS, Kim YK, Lee JS, Song EJ, Ryu H, Yu K</td>
</tr>
<tr>
<td>Mouse / 1:500</td>
<td>MN1050 was used in western blot to describe the role of miR-132 in amyloid and TAU pathology associated with Alzheimer's disease.</td>
</tr>
</tbody>
</table>
|                    | EMBO molecular medicine (Sep 2016; 8: 1005) "miR-132 loss represses IPKβ and aggravates amyloid and TAU pathology in Alzheimer's brain."
<p>|                    | Author(s): Salta E, Sierkama S, Vanden Eynden E, De Strooper B |
|                    | PubMed Article URL: <a href="http://dx.doi.org/10.15252/emmm.201606520">http://dx.doi.org/10.15252/emmm.201606520</a> |
| Mouse / Not Cited  | MN1050 was used in western blot to study the effect of anesthesia on tau phosphorylation. |
|                    | Author(s): Run X, Liang Z, Zhang L, Iqbal K, Grundke-Iqbal I, Gong CX |
|                    | PubMed Article URL: <a href="http://dx.doi.org/10.3233/JAD-2009-1003">http://dx.doi.org/10.3233/JAD-2009-1003</a> |
| Fruit fly / 1:2000 | MN1050 was used in western blot to study the roles of GSK3 beta, MARK and Cdk5 in the relationship between tau toxicity and phosphorylation. |
|                    | Human molecular genetics (Jan 2009; 18: 164) &quot;Dissection of tau toxicity and phosphorylation: role of GSK3beta, MARK and Cdk5 in a Drosophila model.&quot; |
|                    | Author(s): Chatterjee S, Sang TK, Lawless GM, Jackson GR |
|                    | PubMed Article URL: <a href="http://dx.doi.org/10.1038/s41467-021-23997-9">http://dx.doi.org/10.1038/s41467-021-23997-9</a> |
| Human / 1:1000     | MN1050 was used in western blot to investigate the effect of memantine on Alzheimer's disease treatment in mice. |
|                    | The American journal of pathology (Feb 2010; 176: 870) &quot;Memantine improves cognition and reduces Alzheimer's-like neuropathology in transgenic mice.&quot; |
|                    | Author(s): Martínez-Coria H, Green KN, Billings LM, Kitazawa M, Albrecht M, Rammes G, Parsons CG, Gupta S, Banerjee P, LaFerla FM |
|                    | PubMed Article URL: <a href="http://dx.doi.org/10.1038/ajpath.2009.090452">http://dx.doi.org/10.1038/ajpath.2009.090452</a> |</p>
<table>
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<th>Organ</th>
<th>Dilution</th>
<th>Species</th>
<th>Concentration</th>
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<tr>
<td>Fruit fly</td>
<td>1:2,000</td>
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<tr>
<td>Human</td>
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<tr>
<td>Hamster</td>
<td>1:500</td>
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<tr>
<td>Mouse</td>
<td>Not Cited</td>
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<tr>
<td>Mouse</td>
<td>1:1000</td>
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<tr>
<td>Human</td>
<td>1:2000</td>
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<td></td>
</tr>
<tr>
<td>Mouse</td>
<td>Not Cited</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Fruit fly / 1:2,000**

**The Journal of clinical investigation (Jan 2007; 117: 236)**

"Oxidative stress mediates tau-induced neurodegeneration in Drosophila."

**Author(s): Dias-Santagata D,Pulga TA,Duttaroy A,Feany MB**

**PubMed Article URL:** http://dx.doi.org/10.1172/JCI28769

**Human / 1:500**

**MN1050 was used in Western Blot to conclude that hibernation is associated with a specific olfactory memory deficit, which might not be attributed to the formation of PHF-like phosphorylated tau within the olfactory bulb as seen in Alzheimer's Disease.**

**Reference:**

"Hibernation Impairs Odor Discrimination - Implications for Alzheimer’s Disease."

**Author(s): Bullmann T,Feneberg E,Kretzschmann TP,Ogunlade V,Holzer M,Arendt T**

**PubMed Article URL:** http://dx.doi.org/10.1389/fnana.2019.00069

**Hamster / 1:500**

**Frontiers in neuroanatomy (Oct 2020; 13: )**

"Neuroprotective effects of the anti-cancer drug sunitinib in models of HIV neurotoxicity suggests potential treatment of neurodegenerative disorders."

**Author(s): Wrasedlo W,Crews LA,Tsigeiny IF,Stocking E,Kouznetsova VL,Price D,Paulino A,Gonzales T,Overk CR,Patrick C,Rockenstein E,Masliah E**

**PubMed Article URL:** http://dx.doi.org/10.1011/bph.12875

**Mouse / Not Cited**

**British journal of pharmacology (Dec 2014; 171: 5757)**

"Neuroprotective effects of the anti-cancer drug sunitinib in models of HIV neurotoxicity enables the potential treatment of neurodegenerative disorders."

**Author(s): Wrasedlo W,Crews LA,Tsigeiny IF,Stocking E,Kouznetsova VL,Price D,Paulino A,Gonzales T,Overk CR,Patrick C,Rockenstein E,Masliah E**

**PubMed Article URL:** http://dx.doi.org/10.1011/bph.12875

**Mouse / 1:1000**


"Ciloquin Decreases Levels of Phosphorylated, Truncated, and Oligomerized Tau Protein."


**PubMed Article URL:** http://dx.doi.org/10.3906/jims222112063

**Human / 1:2000**

**Journal of neuroscience research (Oct 2015; 93: 1567)**

"Physiologically relevant factors influence tau phosphorylation by leucine-rich repeat kinase 2."

**Author(s): Hamm M, Bailey R, Shaw G, Yen SH, Lewis J, Glasson Bl**

**PubMed Article URL:** http://dx.doi.org/10.1002/jnr.23614

**Mouse / Not Cited**

**Proceedings of the National Academy of Sciences of the United States of America (Feb 2018; 115: E1876)**

"NAD<sup>+</sup> supplementation normalizes key Alzheimer’s features and DNA damage responses in a new AD mouse model with introduced DNA repair deficiency."


**PubMed Article URL:** http://dx.doi.org/10.1073/pnas.1718819115

**Mouse / Not Cited**

**Journal of the pharmacology and experimental therapeutics (Apr 2008; 325: 146)**

"A neuronal microtubule-interacting agent, NAPVISPOQ, reduces tau pathology and enhances cognitive function in a mouse model of Alzheimer’s disease."


**PubMed Article URL:** http://dx.doi.org/10.1111/j.1744-0596.2007.00422.x

**Mouse / Not Cited**


"MN1050 was used in Western Blot to characterise Alzheimer’s disease-related tau pathology by HS3ST2 expression in critical for the abnormal phosphorylation of tau."


**PubMed Article URL:** http://dx.doi.org/10.1093/brain/aws056
Flanking of tau with MAP2K5-regulated MAP-kinase-phosphatase activity promotes cognitive deficits in Alzheimer's disease mice.

The American journal of pathology (2013; 182: 490)  
Author(s):Müller C,Heinrichs J,Thomas V,Bonni A,Ballif BC,Kurzchalia TV

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MN1050 was used in western blot to study the phosphorylation of mutant (R406W) human tau and its effect on microtubule binding.

Scientific reports (Jul 2020; 10: )  
"Effects of pharmacological modulators of -synuclein and tau aggregation and internalization."  

"Oligogenic hypoperfusion differentially affects tau and amyloid-(beta)."  
Author(s):Koike MA,Green KN,Blarton-Jones M,Laferla FM

PNAS (2006; 103: 18361-18366)  
"Probing the molecular events associated with tauopathy in the presence of Alzheimer's disease-associated biofilms.

Author(s):Koike MA,Green KN,Blarton-Jones M,Laferla FM

"Changes in posttranslational modifications of tau following hypoperfusion: role in the pathogenesis of Alzheimer's disease.

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"Changes in posttranslational modifications of tau following hypoperfusion: role in the pathogenesis of Alzheimer's disease.

Author(s):Koike MA,Green KN,Blarton-Jones M,Laferla FM
MN1050 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 / 1:4000

British journal of pharmacology (Nov 2007; 152: 959)
"Efficacy of small-molecule glycogen synthase kinase-3 inhibitors in the postnatal rat model of tau hyperphosphorylation."
Author(s): Selenica ML,Jensen HS,Larsen AK,Pedersen ML,Helboe L,Leist M,Lotharius J
PubMed Article URL: http://dx.doi.org/10.1038/sj.bpj.0707471

MN1050 was used in western blot to investigate the role of LRP6 in the regulation of GSK3 activity

Human / Not Cited

The Journal of biological chemistry (Feb 2006; 281: 4787)
"The low density lipoprotein receptor-related protein 6 interacts with glycogen synthase kinase 3 and attenuates activity."
Author(s): Mi K,Dolan PJ,Johnson GV
PubMed Article URL: http://dx.doi.org/10.1074/jbc.M508657200

MN1050 was used in western blot to study the mechanism for tau protein assembly

Mouse / Not Cited

Journal of neurochemistry (Dec 2002; 83: 1498)
"Assembly of tau in transgenic animals expressing P301L tau: alteration of phosphorylation and solubility."
Author(s): Sahara N,Lewis J,DeTure M,McCgowan E,Dickson DW,Hutton M,Yen SH
PubMed Article URL: http://dx.doi.org/10.1046/j.1471-4159.2002.01241.x

MN1050 was used in Western Blotting to determine the role of the ALOX5 gene in the development of the neuropathological, biochemical and behavioural sequelae of increased homocysteine.

Mouse / 1:300

Human molecular genetics (May 2017; 26: 1855)
"Genetic absence of ALOX5 protects from homocysteine-induced memory impairment, tau phosphorylation and synaptic pathology."
Author(s): Li JG,Barrero C,Merali S,Praticó D
PubMed Article URL: http://dx.doi.org/10.1093/hmg/ddx088

MN1050 was used in western blot to investigate the effect of Abeta on the regulation of tau modification and neuronal function

Rat / Not Cited

Proceedings of the National Academy of Sciences of the United States of America (Apr 2011; 108: 5819)
"Soluble amyloid beta-protein dimers isolated from Alzheimer cortex directly induce Tau hyperphosphorylation and neuritic degeneration."
PubMed Article URL: http://dx.doi.org/10.1073/pnas.1017033108

MN1050 was used in Western Blotting to provide a link between the calcium dysregulation and metabolic dysfunction hypotheses of Alzheimer’s disease (AD) and suggest mCa2+ exchange as potential therapeutic target in AD.

Mouse / 1:200

"Impaired mitochondrial calcium efflux contributes to disease progression in models of Alzheimer’s disease."
PubMed Article URL: http://dx.doi.org/10.1038/s41467-019-11813-6

MN1050 was used in western blot to study the beneficial effects on tau pathology in a murine transgenic tauopathy model of the virally-mediated overexpression of soluble fractalkine

Mouse / Not Cited

Neurobiology of aging (Jun 2013; 34: 1540)
"Fractalkine overexpression suppresses tau pathology in a mouse model of tauopathy."

MN1050 was used in western blot to evaluate the low density lipoprotein receptor-related protein 6 (LRP6) activity

Mouse / Not Cited

"Sodium selenate mitigates tau pathology, neurodegeneration, and functional deficits in Alzheimer’s disease models."
Author(s): van Eersel J, Ke YD, Liu X, Delerue F, Kril JJ, Götz J, Ittner LM
PubMed Article URL: http://dx.doi.org/10.1073/pnas.1009038107
<table>
<thead>
<tr>
<th>Species</th>
<th>Title</th>
<th>Author(s)</th>
<th>PubMed Article URL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mouse</td>
<td>&quot;Mifepristone alters amyloid precursor protein processing to preclude amyloid beta and also reduces tau pathology.&quot;</td>
<td>Baglietto-Vargas D,Medeiros R,Medina-Coria H,LaFerla FM,Green KN</td>
<td>dx.doi.org/10.1016/j.biopsych.2012.12.003</td>
</tr>
<tr>
<td>Human</td>
<td>&quot;Detrimental effects of diet-induced obesity on pathology are independent of insulin resistance in transgenic mice.&quot;</td>
<td>Leboucher A,Laurent C,Fernandez-Gomez FJ,Burnouf S,Troquier L,Edgardkaoui S,Demeyer D,Caliezier R,Zommer N,Vallez E,Bantubungi K,Bréton C,Pigny P,Buee-Scherrer V,Svelas H,Bamdane M,Tailleux A,Buee L,Blum D</td>
<td>N01050 was used in Western Blotting to investigate whether betromer dysfunction contributes to the amyloid beta (A) and tau neuropathology of Down syndrome.</td>
</tr>
<tr>
<td>Human</td>
<td>&quot;Dysfunction of the retromer complex system contributes to amyloid and tau pathology in a stem cell model of Down syndrome.&quot;</td>
<td>Curtis ME,Smith T,Blass BE,Praticò D</td>
<td>dx.doi.org/10.1002/trc.2.12334</td>
</tr>
<tr>
<td>Hamster</td>
<td>&quot;Molecular neurobiology (May 2017; 54: 2706)&quot;</td>
<td>Chon SI,Sarkar S</td>
<td>MN1050 was used in western blot to investigate the role of lysosomal dysfunction in tau cleavage and neurotoxicity in vivo</td>
</tr>
<tr>
<td>Fruit fly</td>
<td>&quot;Lysosomal dysfunction promotes cleavage and neurotoxicity of tau in vivo.&quot;</td>
<td>Khurana V,Elson-Schwab I,Fulga TA,Sharp KA,Loewen CA,Mulkearns E,Tynelä J,Scherzer CR,Feaney MB</td>
<td>dx.doi.org/10.1074/jbc.M403364200</td>
</tr>
<tr>
<td>Mouse</td>
<td>&quot;NMDA receptor dysfunction contributes to impaired brain-derived neurotrophic factor-induced facilitation of hippocampal synaptic transmission in a transgenic model.&quot;</td>
<td>Burnouf S,Martire A,Derisbourg M,Laurent C,Belarbi K,Leboucher A,Fernandez-Gomez FJ,Troquier L,Edgardkaoui S,Grosjean ME,Demeyer D,Muhr-Tailleux A,Buisson A,Sergeant N,Hamdane M,Humez S,Popoli P,Buée L,Blum D</td>
<td>MN1050 was used in western blot to study the reduced alpha- and beta-cleavage of APP and reduced phosphorylated tau accumulation in transgenic mice treated with mifepristone</td>
</tr>
</tbody>
</table>
Throughout the text, MN1050 was used in western blot to study the effect of endogenous murine tau on cognition and neurofibrillary tangles in a murine Alzheimer's disease model transgenically expressing human tau.

**Human / 1:1000**

- **Neurobiology of disease (Feb 2014; 62:407)**
  - "Endogenous murine tau promotes neurofibrillary tangles in 3xTg-AD mice without affecting cognition."
  - Author(s): Baglietto-Vargas D, Kitazawa M, Lej, Estrada-Hernandez T, Rodriguez-Ortiz CJ, Medeiros R, Green KN, LaFerla FM
  - PubMed Article URL: http://dx.doi.org/10.1016/j.nbd.2013.10.019

**Mouse / 1:1000**

- **Frontiers in molecular neuroscience (Oct 2020; 11:)**
  - "Acute down-regulation of BDNF Signaling Does Not Replicate Exacerbated Amyloid- Levels and Cognitive Impairment Induced by Cholinergic Basal Forebrain Lesion."
  - Author(s): Turnbull MT, Boskovic Z, Coulson EJ
  - PubMed Article URL: http://dx.doi.org/10.3389/fnmol.2018.00051

**Human / 1:5000**

  - "Endogenous conversion of omega-6 into omega-3 fatty acids improves neuropathology in an animal model of Alzheimer's disease."
  - Author(s): Lebbadi M, Julien C, Phivilay A, Tremblay C, Emond V, Kang JX, Calon F
  - PubMed Article URL: http://dx.doi.org/10.1016/j.jalz.2011-111010

**Chicken / 1:5,000-1:10,000**

- **Biochemistry (Dec 2002; 41:15203)**
  - "Molecular cloning and functional characterization of chicken brain tau: isoforms with up to five tandem repeats."
  - Author(s): Yoshida H, Goedert M
  - PubMed Article URL: http://dx.doi.org/10.1021/bi026464m

**Mouse / 1:1000**

- **Proceedings of the National Academy of Sciences of the United States of America (May 2007; 104:9511)**
  - "Roles of heat-shock protein 90 in maintaining and facilitating the neurodegenerative phenotype in tauopathies."
  - PubMed Article URL: http://dx.doi.org/10.1073/pnas.0701055104

**Rat / Not Cited**

  - "Screening of tau protein kinase inhibitors in a tauopathy-relevant cell-based model of tau hyperphosphorylation and oligomerization."
  - PubMed Article URL: http://dx.doi.org/10.1371/journal.pone.0224952
MN1050 was used in Western Blotting to elucidate the molecular mechanisms linking amyloid-beta to cognitive decline.

The Journal of biological chemistry (Apr 2010; 285: 13107)
"Molecular interplay between mammalian target of rapamycin (mTOR), amyloid-beta, and Tau: effects on cognitive impairments."
Author(s): Caccamo A, Majumder S, Richardson A, Strong R, Oddo S
PubMed Article URL: http://dx.doi.org/10.1074/jbc.M110.100420

Not Applicable / 1:1000

MN1050 was used in western blot to test if hypothermia could be used to assess tau kinase inhibitors efficacy

Scientific reports (Mar 2013; 2)
"Hypothermia-induced hyperphosphorylation: a new model to study tau kinase inhibitors."
PubMed Article URL: http://dx.doi.org/10.1038/srep00480

Mouse / 1:5000

MN1050 was used in western blot to study whether tau pathology is associated with BDNF downregulation in a transgenic mouse model

Current Alzheimer research (May 2012; 9: 406)
"Hippocampal BDNF expression in a tau transgenic mouse model."
Author(s): Burnouf S, Belarbi K, Troquier L, Derisbourg M, Demeyer D, Leboucher A, Laurent C, Hamdane M, Buee L, Blum D
PubMed Article URL: http://dx.doi.org/10.2174/156720512800492468

Mouse / Not Cited

MN1050 was used in western blot to study the effects of glucocorticoids on memory, tau phosphorylation and beta-amyloid levels in a murine model of Alzheimer's disease.

The EMBO journal (May 2014; 33: 1011)
"Loss of the m-AAA protease subunit AFGL causes mitochondrial transport defects and tau hyperphosphorylation."
PubMed Article URL: http://dx.doi.org/10.1002/embj.201387009

Mouse / 1:200

MN1050 was used in western blot to study the effects of Arginase 1 overexpression in the central nervous system of rTg4510 tau transgenic mice.

"A Conserved Cytoskeletal Signaling Cascade Mediates Neurotoxicity of FTDP-17 Tau Mutations (<i>In Vivo</i>)."
Author(s): Bardai FH, Wang L, Mutreja Y, Yenjerla M, Gamblin TC, Feany MB
PubMed Article URL: http://dx.doi.org/10.1523/JNEUROSCI.1550-15.2017

Mouse / Not Cited

MN1050 was used in Western Blotting to determine the mechanism by which FTDP-17 mutations promote disease in vivo.

"Sustained Arginase 1 Expression Modulates Pathological Tau Deposits in a Mouse Model of Tauopathy."
PubMed Article URL: http://dx.doi.org/10.1523/JNEUROSCI.3959-14.2015

Fruit fly / 1:10,000

MN1050 was used in Western Blotting to study the effects of Arginase 1 overexpression in the central nervous system of a tau transgenic fly model.

"Sustained Arginase 1 Expression Modulates Pathological Tau Deposits in a Mouse Model of Tauopathy."
PubMed Article URL: http://dx.doi.org/10.1523/JNEUROSCI.3959-14.2015

Mouse / Not Cited

MN1050 was used in Western Blotting to study the effect of aging on brain lipoxin A4 levels using non-transgenic and 3xTg-AD mice.

"Stress hormone leads to memory deficits and altered tau phosphorylation in a model of Alzheimer's disease."
Author(s): Joshi YB, Chu J, Pratico D
PubMed Article URL: http://dx.doi.org/10.3233/JAD-2012-120328

Human / Not Cited

MN1050 was used in western blot to study whether tau pathology is associated with BDNF downregulation in a transgenic human model.

"Restoration of lipoxin A4 signaling reduces Alzheimer's disease-like pathology in the 3xTg-AD mouse model."
Author(s): Dunn HC, Ager RR, Baglietto-Vargas D, Cheng D, Kitazawa M, Cribs DH, Medeiros R
PubMed Article URL: http://dx.doi.org/10.3233/JAD-141335

Mouse / 1:1,000

MN1050 was used in western blot to investigate the phosphorylation and aggregation of tau protein in the 3xTg-AD mouse.

Neuroscience letters (May 2011; 495: 55)
"Long term changes in phospho-APP and tau aggregation in the 3xTg-AD mice following cerebral ischemia."
Author(s): Koike MA, Garcia FG, Kitazawa M, Green KN, Laferla FM
PubMed Article URL: http://dx.doi.org/10.1016/j.neulet.2011.03.034
MN1050 was used in western blot to study the effect of docosahexaenoic acid and docosapentaenoic acid on amyloid beta and tau pathology

"Dietary docosahexaenoic acid and docosapentaenoic acid ameliorate amyloid-beta and tau pathology via a mechanism involving presenilin 1 levels."
Author(s):Green KN, Martinez-Coria H, Khashwji H, Hall EB, Yurko-Mauro K, Ellis L, LaFerla FM
PubMed Article URL:http://dx.doi.org/10.1523/JNEUROSCI.0055-07.2007

Not Applicable / Not Cited

"Tau aggregation and progressive neuronal degeneration in the absence of changes in spine density and morphology after targeted expression of Alzheimer's disease-relevant tau constructs in organotypic hippocampal slices."
Author(s):Shahani N, Subramaniam S, Wolf T, Tackenberg C, Brandt R
PubMed Article URL:http://dx.doi.org/10.1523/JNEUROSCI.4245-05.2006

MN1050 was used in western blot to investigate the predictive values of CSF T-PKR and pPKR in the diagnosis of Alzheimer disease

Human / 1:100

Biological psychiatry (May 2012; 71: 829)
"Increased cerebrospinal fluid levels of double-stranded RNA-dependant protein kinase in Alzheimer's disease."
PubMed Article URL:http://dx.doi.org/10.1016/j.biopsych.2011.11.031

Mouse / Not Cited

Neuro-degenerative diseases (Nov 2013; 11: 194)
"Elevated levels of soluble total and hyperphosphorylated tau result in early behavioral deficits and distinct changes in brain pathology in a new tau transgenic mouse model."
PubMed Article URL:http://dx.doi.org/10.1159/000338152

Mouse / 1:1000

Neurobiology of aging (May 2020; 89: 41)
"Rho-kinase ROCK inhibitors reduce oligomeric tau protein."
Author(s):Hamano T, Shirafuji N, Yen SH, Yoshida H, Kanaan NM, Hayashi K, Ikawa M, Yamamura O, Fujita Y, Kuriyama M, Nakamoto Y
PubMed Article URL:http://dx.doi.org/10.1016/j.neurobiolaging.2019.12.009

Human / Not Cited

PloS one (Mar 2013; 7: )
"Sex-dependent alterations in social behaviour and cortical synaptic activity coincide at different ages in a model of Alzheimer's disease."
Author(s):Bories C, Guittton MJ, Julien C, Tremblay C, Vandal M, Msaid M, De Koninck Y, Calon F
PubMed Article URL:http://dx.doi.org/10.1371/journal.pone.0046111

Human / 1:1000

Molecular psychiatry (Oct 2021; 26: 5733)
"Loss of function of the mitochondrial peptidase PITRM1 induces proteotoxic stress and Alzheimer's disease-like pathology in human cerebral organoids."
PubMed Article URL:http://dx.doi.org/10.1038/s41380-020-0807-4
MN1050 was used in Western Blotting to determine the effect of long-term treatment with the selective 7 nAChR agonist A-582941 in aged 3xTg-AD mice with robust Alzheimer's disease-like pathology.

Mouse / Not Cited

The American journal of pathology (Feb 2014; 184: 520)

"7 Nicotinic receptor agonist enhances cognition in aged 3xTg-AD mice with robust plaques and tangles."

Author(s):Medeiros R,Castello NA,Cheng D,Kitazawa M,Baglietto-Vargas D,Green KN,Goldman TW,Decker MW,LaFerla FM

PubMed Article URL:http://dx.doi.org/10.1016/j.ajpath.2013.10.010

MN1050 was used in Western blot to investigate the effect of lithium for the regulation of TOP translation

Human / Not Cited

The Journal of biological chemistry (Feb 2005; 280: 5336)

"Lithium can relieve translational repression of TOP mRNAs elicited by various blocks along the cell cycle in a glycogen synthase kinase-3- and G6-kinase-independent manner."

Author(s):Stolovich M,Lerer T,Bolkier Y,Cohen H,Meyuhas O

PubMed Article URL:http://dx.doi.org/10.1074/jbc.M412434200

MN1050 was used in Western Blot to suggest that serum tau proteins, especially NEX tau proteins, are useful biomarkers for monitoring AD progression.

Human / 1:500


"Serum Tau Proteins as Potential Biomarkers for the Assessment of Alzheimer's Disease Progression."

Author(s):Nam E,Lee YB,Moon C,Chang KA

PubMed Article URL:http://dx.doi.org/10.3390/ijms21145007

MN1050 was used in Western Blotting to suggest that KLK7 aids in the degradation and clearance of Aβ by astrocytes involved in the pathogenesis of AD.

Mouse / 1:1,000

EMBO molecular medicine (Mar 2018; 10:)

"Loss of kallikrein-related peptidase 7 exacerbates amyloid pathology in Alzheimer's disease model mice."

Author(s):Kikana K,Tatebe T,Itto K,Hara N,Kakita A,Saito T,Takatori S,Ouchu Y,Keuchi T,Makino M,Saito TC,Akshita M,Itai T,Hori Y,Tomita T

PubMed Article URL:http://dx.doi.org/10.15252/emmm.201708184

MN1050 was used in western blot to investigate the usefulness of a novel Drosophila model to investigate the formation of tau tangle

Human / 1:100000


"Gliarial fibrillary tangles and JAK/STAT-mediated glial and neuronal cell death in a Drosophila model of glial tauopathy."

Author(s):Colodner KJ,Feany MB

PubMed Article URL:http://dx.doi.org/10.1523/JNEUROSCI.2491-10.2010

MN1050 was used in immunohistochemistry - paraffin section and western blot to characterize the behavioral, biochemical, and neuropathologic effects of BISO in the triple transgenic mouse model of Alzheimer's disease

Mouse / 1:200

Neurobiology of aging (Feb 2015; 36: 812)

"Modulation of AD neuropathology and memory impairments by the isoprostane F2 is mediated by the thromboxane receptor."

Author(s):Lauretti E,Di Meco A,Chu J,Praticò D

PubMed Article URL:http://dx.doi.org/10.1016/j.neurobiolaging.2014.10.005

MN1050 was used in western blot to investigate the important roles of LRRK2 in phosphorylation-mediated dissociation of tau from microtubules

Human / Not Cited

PloS one (Jun 2012; 7: )

"LRRK2 phosphorylates tubulin-associated tau but not the free molecule: LRRK2-mediated regulation of the tau-tubulin association and neurite outgrowth."

Author(s):Kawakami F,Yabata T,Ohta E,Maekawa T,Shimada N,Suzuki M,Maruyama H,Ichikawa T,Obata F

PubMed Article URL:http://dx.doi.org/10.1371/journal.pone.0030834

MN1050 was used in western blot to study the lack of effect of BDNF knockdown on Abeta or tau pathology in a model of Alzheimer's disease

Mouse / Not Cited

PloS one (Feb 2013; 7: )

"Genetic knockdown of brain-derived neurotrophic factor in 3xTg-AD mice does not alter A or tau pathology."

Author(s):Castello NA,Green KN,LaFerla FM

PubMed Article URL:http://dx.doi.org/10.1371/journal.pone.0039566
MN1050 was used in western blot to investigate the role of FRAT protein for the regulation of GSK3 beta-induced tau phosphorylation

Human / Not Cited

The Journal of biological chemistry (Jan 2005; 280: 270)
"FRAT-2 preferentially increases glycogen synthase kinase 3 beta-mediated phosphorylation of primed sites, which results in enhanced tau phosphorylation."
Author(s):Stoothoff WH,Cho JH,McDonald RP,Johnson GV
PubMed Article URL:http://dx.doi.org/10.1074/jbc.M410061200

MN1050 was used in western blot to investigate the effect of minocycline on endogenous neuroinflammation and tau modification in Alzheimer disease mouse model

Human / 1:1000

"Reductions in amyloid-beta-derived neuroinflammation, with minocycline, restore cognition but do not significantly affect tau hyperphosphorylation."
Author(s):Parachikova A,Vasilevko V,Cribbs DH,LaFerla FM,Green KN
PubMed Article URL:http://dx.doi.org/10.3233/JAD-2010-100204

1 Functional Assay References

Species / Dilution Summary

MN1050 was used in Functional assay to demonstrate that CSF p-tau231 increases early in development of AD pathology and is a principal candidate for detecting incipient A pathology for therapeautic trial application.

Human / Not Cited

EBioMedicine (Feb 2022; 76: )
"Cerebrospinal fluid p-tau231 as an early indicator of emerging pathology in Alzheimer's disease."
PubMed Article URL:http://dx.doi.org/10.1016/j.ebiom.2022.103836

2 Immunohistochemistry (Paraffin) References

Species / Dilution Summary

MN1050 was used in Immunohistochemistry (Paraffin) to to identify Alzheimer's disease-specific cellular changes related to nuclear speckles.

Human / 1:5000

Acta neuropathologica communications (Jun 2021; 9: )
"Pathological tau drives ectopic nuclear speckle scaffold protein SRRM2 accumulation in neuron cytoplasm in Alzheimer's disease."
Author(s):McMillan PJ,Strovas TJ,Baum M,Mitchell BK,Eck RJ,Hendricks N,Wheeler JM,Latimer CS,Keene CD,Kraemer BC
PubMed Article URL:http://dx.doi.org/10.1186/s40478-021-01219-1

Mouse / 1:5000

MN1050 was used in immunohistochemistry - paraffin section and western blot to determine the pathology in tau transgenic mice due to tau-targeting passive immunization

Not Applicable / Not Cited

Journal of neurochemistry (Jan 2015; 132: 135)
"Tau-targeting passive immunization modulates aspects of pathology in tau transgenic mice."
Author(s):Ittner A,Bertz J,Suh LS,Stevens CH,Götze J,Ittner LM
PubMed Article URL:http://dx.doi.org/10.1111/jnci.12821

21 Immunohistochemistry References

Species / Dilution Summary

MN1050 was used in immunohistochemistry to develop an imaging system for long-term monitoring of retinal fibrillar tau in P301S tau transgenic mice and to study whether retinal tau is diagnostic in Alzheimer's disease

Human / 1:200

PloS one (Jun 2013; 7: )
"Long-term in vivo imaging of fibrillar tau in the retina of P301S transgenic mice."
PubMed Article URL:http://dx.doi.org/10.1371/journal.pone.0053547

Mouse / 1:1000

MN1050 was used in immunohistochemistry to study the role of ankyrinG in the maintenance of axo-dendritic polarity

Proceedings of the National Academy of Sciences of the United States of America (Oct 2009; 106: 17564)
"AnkyrinG is required to maintain axo-dendritic polarity in vivo."
Author(s):Sobotzik JM,Sie JM,Pollit C,Del Turco D,Bennett V,Deller T,Keene CD,Kraemer BC
PubMed Article URL:http://dx.doi.org/10.1073/pnas.0909267106
MN1050 was used in Immunohistochemistry-immunofluorescence to show that the formation of axonal aggregates may represent a crucial event in the cascades of pathological events leading to neurodegeneration in Huntington's disease.

**Human / 1:4000**

Brain pathology (Zurich, Switzerland) (Apr 2014; 24: 247)

"Huntington’s disease (HD): degeneration of select nuclei, widespread occurrence of neuronal nuclear and axonal inclusions in the brainstem."


PubMed Article URL: http://dx.doi.org/10.1111/bpa.12115

**Mouse / 1:200**

MN1050 was used in immunohistochemistry to study the temporal and spatial progression of AD-like pathology in male 3xTg-AD mice

**Mouse / 1:10**

Journal of Alzheimer’s disease: JAD (May 2013; 33: 357)

"SorLA deficiency dissects amyloid pathology from tau and cholinergic neurodegeneration in a mouse model of Alzheimer’s disease."

Author(s): Capsoni S., Carlo A.S., Vignone D., Amato G., Criscuolo C., Willnow T.E., Cattaneo A

PubMed Article URL: http://dx.doi.org/10.3233/JAD-2012-121399

**Mouse / Not Cited**

Scientific reports (Apr 2017; 7: )

"Five lipoxygenase hypomethylation mediates the homocysteine effect on Alzheimer’s phenotype."

Author(s): Li J.G., Barrero C., Merali S., Praticò D

PubMed Article URL: http://dx.doi.org/10.1038/srep46002

**Non-human primate / 1:1000**

Brain structure & function (Jul 2013; 218: 1005)

"Ankyrin-B structurally defines terminal microdomains of peripheral somatosensory axons."

Author(s): Engelhardt M., Vorwald S., Sobotzik J.M., Bennett V., Schultz C

PubMed Article URL: http://dx.doi.org/10.1007/s00429-012-0443-0

**Mouse / 1:500**

Neurobiology of aging (Jul 2013; 31: 1145)

"Co-occurrence of Alzheimer’s disease β-amyloid and pathologies at synapses."

Author(s): Takahashi R.H., Capetillo-Zarate E., Lin M.T., Milner T.A., Gouras G.K

PubMed Article URL: http://dx.doi.org/10.1016/j.neurobiolaging.2008.07.021

**Mouse / 1:200**


"The KATP channel activator diazoxide ameliorates amyloid- and tau pathologies and improves memory in the 3xTgAD mouse model of Alzheimer’s disease."


PubMed Article URL: http://dx.doi.org/10.3233/JAD-2010-101017

MN1050 was used in immunohistochemistry to develop a non-invasive NGF-based therapy for Alzheimer's disease.

Current Alzheimer research (Apr 2009; 6: 158)  
"Development of a non invasive NGF-based therapy for Alzheimer's disease."  
Author(s): Covaceuszach S, Capsoni S, Ugolini G, Spirito F, Vignone D, Cattaneo A  
PubMed Article URL: http://dx.doi.org/10.2174/156720509787602870

MN1050 was used in immunohistochemistry to study the role of Tau phosphorylation in murine spermatogenesis during meiosis.

FEBS letters (May 2014; 588: 2003)  
"Site-specific phosphorylation of Tau protein is associated with deacetylation of microtubules in mouse spermatogenic cells during meiosis."  
PubMed Article URL: http://dx.doi.org/10.1016/j.febslet.2014.04.021

MN1050 was used in immunohistochemistry to study the increased tau phosphorylation following treatment with a mitochondrial complex I inhibitor in a tau transgenic mouse model.

Experimental neurology (Mar 2014; 253: 113)  
"Annonacin, a natural lipophilic mitochondrial complex I inhibitor, increases phosphorylation of tau in the brain of FTD-17 transgenic mice."  
PubMed Article URL: http://dx.doi.org/10.1016/j.expneurol.2013.12.017

MN1050 was used in immunohistochemistry to use a murine model of repetitive mild brain injury to study whether the observed cognitive deficits are associated with beta-amyloid/tau pathology or APOE allele.

Annals of neurology (Jul 2013; 74: 65)  
"Clinical correlates in an experimental model of repetitive mild brain injury."  
PubMed Article URL: http://dx.doi.org/10.1002/ana.23858

MN1050 was used in Immunohistochemistry to show that the involvement of amylin, pancreatic-synuclein, AβP and tau in the complex pathophysiology of type two diabetes and in the appearance of insulin resistance in Alzheimer's and Parkinson's disease.

Acta neuropathologica communications (Apr 2021; 9: )  
"Mixed pathologies in pancreatic cells from subjects with neurodegenerative diseases and their interaction with prion protein."  
Author(s): Martinez-Valbuena I, Valenti-Azarate R, Amat-Villegas I, Marcilla I, Martí-Andres G, Caballero MC, Riverol M, Tuñón MT, Fraser PE, Luquin MR  
PubMed Article URL: http://dx.doi.org/10.1186/s40478-021-01171-0

MN1050 was used in Immunohistochemistry to examine the effects of carnosic acid in models of Alzheimer’s disease.

Cell death & disease (Dec 2016; 7: )  
"Therapeutic advantage of pro-electrophilic drugs to activate the Nrf2/ARE pathway in Alzheimer’s disease models."  
Author(s): Lipton SA, Rezaie T, Nutter A, Lopez KM, Parker J, Kosaka K, Satoth T, McKercher SR, Masliah E, Nakashih N  
PubMed Article URL: http://dx.doi.org/10.1038/cddis.2016.389

MN1050 was used in Immunohistochemistry to study the effect of quinolinic acid on tau phosphorylation in neurons.

PloS one (Jul 2009; 4: )  
"The excitotoxin quinolinic acid induces tau phosphorylation in human neurons."  
Author(s): Rahman A, Ting K, Cullen KM, Braidy N, Brew BJ, Guillemin GJ  
PubMed Article URL: http://dx.doi.org/10.1371/journal.pone.0006344

MN1050 was used in Immunohistochemistry to study the unfolded protein response in the hippocampus of tauopathies.

The Journal of pathology (Apr 2012; 226: 693)  
"The unfolded protein response is associated with early tau pathology in the hippocampus of tauopathies."  
Author(s): Nijholt DA, van Haastert ES, Rozemuller AJ, Schepers W, Hoozemans JJ  
PubMed Article URL: http://dx.doi.org/10.1002/path.3969


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MN1050 was used in immunohistochemistry to investigate the effect of Tau mutations on the behavior and electrophysiology of mice.

Mouse / 1:2000

The Journal of neuroscience : the official journal of the Society for Neuroscience (Feb 2011; 31: 2511)

“Tau-induced defects in synaptic plasticity, learning, and memory are reversible in transgenic mice after switching off the toxic Tau mutant.”


PubMed Article URL: http://dx.doi.org/10.1523/JNEUROSCI.5245-10.2011

MN1050 was used in immunohistochemistry to study the role of the phospho-Tau pathway in the mechanism by which deficient macroautophagy promotes age-related neurodegeneration.

Mouse / Not Cited

Molecular neurodegeneration (Sep 2012; 7: )

“Macroautophagy deficiency mediates age-dependent neurodegeneration through a phospho-tau pathway.”

Author(s): Innoue K, Rispoli J, Kaphan H, Klann E, Chen El, Kim J, Komatsu M, Abeliovich A

PubMed Article URL: http://dx.doi.org/10.1186/1750-1326-7-48

MN1050 was used in immunohistochemistry to investigate the dysregulation of gene expression and tau phosphorylation in MPS III B mice.

Mouse / Not Cited

Proceedings of the National Academy of Sciences of the United States of America (May 2009; 106: 8332)

“Sanfilippo syndrome type B, a lysosomal storage disease, is also a tauopathy.”

Author(s): Ohmi K, Kudo LC, Ryazantsev S, Zhao HZ, Karsten SL, Neufeld EF

PubMed Article URL: http://dx.doi.org/10.1073/pnas.0903223106

3 Immunocytochemistry References

Species / Dilution

Summary

MN1050 was used in Immunocytochemistry to investigate the potential of nature-inspired glucosylpolyphenols against relevant targets, including islet amyloid polypeptide, glucosidases, and cholinesterases.

Human / 1:500

Journal of medicinal chemistry (Oct 2020; 63: 11663)

“Glucosylpolyphenols as Inhibitors of A-Induced Fyn Kinase Activation and Tau Phosphorylation: Synthesis, Membrane Permeability, and Exploratory Target Assessment within the Scope of Type 2 Diabetes and Alzheimer’s Disease.”


PubMed Article URL: http://dx.doi.org/10.1021/acs.jmedchem.0c00841

MN1050 was used in Immunocytochemistry to investigate the presence of NfL in the vitreous humor and its associations with amyloid beta, tau, inflammatory cytokines and vascular proteins, apolipoprotein E (APOE) genotypes, Mini-Mental State Examination (MMSE) scores, systemic disease, and ophthalmic diseases.

Human / Not Cited

Alzheimer’s research & therapy (Sep 2020; 12: )

“Neurofilament light chain in the vitreous humor of the eye.”

Author(s): Subramanian ML, Vig V, Chung J, Fiorello MG, Xia W, Zetterberg H, Blennow K, Zetterberg M, Shareef F, Siegel NH, Ness S, Jun GR, Stein TD

PubMed Article URL: http://dx.doi.org/10.1186/s13195-020-00677-4

MN1050 was used in Immunocytochemistry-Immunofluorescence to assess the performance of plasma neurofilament light (NFL) and phosphorylated tau 181 (p-tau181) to inform about cerebral Alzheimer’s disease (AD) pathology.

Human / Not Cited

Alzheimer’s research & therapy (Mar 2021; 13: )

“Plasma neurofilament light and phosphorylated tau 181 as biomarkers of Alzheimer’s disease pathology and clinical disease progression.”


PubMed Article URL: http://dx.doi.org/10.1186/s13195-021-00805-8

2 Immunoprecipitation References

Species / Dilution

Summary

MN1050 was used in Immunoprecipitation to show increased plasma p-tau181 is associated with the presence of cortical amyloid- pathology in Alzheimer’s disease.

Human / Not Cited

Brain : a journal of neurology (Feb 2021; 144: 325)

“Time course of phosphorylated-tau181 in blood across the Alzheimer’s disease spectrum.”


PubMed Article URL: http://dx.doi.org/10.1093/brain/awaa399


Products are warranted to operate or perform substantially in conformance with published Product specifications in effect at the time of sale, as set forth in the Production documentation, specifications and/or accompanying package inserts ("Documentation"). No claim of suitability for use in applications regulated by FDA is made. The warranty provided herein is valid only when used by properly trained individuals. Unless otherwise stated in the Documentation,any claim for non-conformance is limited to one year from date of shipment when the Product is subjected to normal, proper and intended usage. This warranty does not extend to anyone other than the Buyer.Any model or sample furnished to Buyer is merely illustrative of the general type and quality of goods and does not represent that any Product will conform to such model or sample.
**4 ELISA References**

<table>
<thead>
<tr>
<th>Species / Dilution</th>
<th>Summary</th>
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<tbody>
<tr>
<td>Human / Not Cited</td>
<td>MN1050 was used in ELISA to study the potential utility of CSF tau and phospho181 tau as Alzheimer's disease biomarkers</td>
</tr>
<tr>
<td>Human / 0.1 µg/mL</td>
<td>MN1050 was used in ELISA to show how the developed assay holds tremendous clinical potential for early diagnosis of AD and monitoring of its progression.</td>
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**6 Miscellaneous PubMed References**

<table>
<thead>
<tr>
<th>Species / Dilution</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human / Not Cited</td>
<td>MN1050 was used in Mass Spectrometry to investigate if plasma phospho-tau181 has a utility as a biomarker of Alzheimer's disease pathology and as a noninvasive screener for elevated brain amyloid.</td>
</tr>
<tr>
<td>Human / Not Cited</td>
<td>MN1050 was used in Immuno-assay to demonstrate that motifs that are critical for tau conformation determine interaction with microtubules and subsequent pathological modifications.</td>
</tr>
<tr>
<td>Human / 1:200</td>
<td>MN1050 was used in Immunocytochemistry to study the progression of tau and amyloid cortical pathology in the ageing rhesus macaque.</td>
</tr>
<tr>
<td>Human / 1:200</td>
<td>MN1050 was used in immunohistochemistry - paraffin section to study the relationship between neurofibrillary tangles and raft domains</td>
</tr>
<tr>
<td>Human / 1:200</td>
<td>MN1050 was used in western blot to perform the first comprehensive Wnt pathway-focused evaluation using the entorhinal cortex and hippocampus from Alzheimer’s diseased brains</td>
</tr>
</tbody>
</table>

Scientific reports (Oct 2017; 7: )
"Motifs in the tau protein that control binding to microtubules and aggregation determine pathological effects."
PubMed Article URL: http://dx.doi.org/10.1038/s41598-017-13786-2

Alzheimer’s & dementia : the journal of the Alzheimer’s Association (May 2018; 14: 680)
"The aged rhesus macaque manifests Braak stage III/IV Alzheimer’s-like pathology."
PubMed Article URL: http://dx.doi.org/10.1016/j.jalz.2017.11.005

Neuropathology and applied neurobiology (Dec 2016; 42: 639)
"The identification of raft-derived tau-associated vesicles that are incorporated into immature tangles and paired helical filaments."
Author(s): Nishikawa T, Takahashi T, Nakamori M, Hosomi N, Maruyama H, Miyazaki Y, Iizumi Y, Matsumoto M
PubMed Article URL: http://dx.doi.org/10.1111/nan.12288

"Aberrant Wnt signaling pathway in medial temporal lobe structures of Alzheimer’s disease."
Author(s): Riise J, Plath N, Pakkenberg B, Parakhkova A
PubMed Article URL: http://dx.doi.org/10.1007/s00702-015-1375-7