**Oligomer A11 Polyclonal Antibody**

**Catalog Number** AHB0052

### Details

<table>
<thead>
<tr>
<th>Feature</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>50 µg</td>
</tr>
<tr>
<td>Host/Isotope</td>
<td>Rabbit / IgG</td>
</tr>
<tr>
<td>Class</td>
<td>Polyclonal</td>
</tr>
<tr>
<td>Type</td>
<td>Antibody</td>
</tr>
<tr>
<td>Immunogen</td>
<td>Synthetic molecular mimic of soluble oligomers.</td>
</tr>
<tr>
<td>Conjugate</td>
<td>Unconjugated</td>
</tr>
<tr>
<td>Form</td>
<td>Liquid</td>
</tr>
<tr>
<td>Purification</td>
<td>purified</td>
</tr>
<tr>
<td>Storage buffer</td>
<td>PBS, pH 7.4</td>
</tr>
<tr>
<td>Contains</td>
<td>0.1% sodium azide</td>
</tr>
<tr>
<td>Storage Conditions</td>
<td>Store at 4°C short term. For long term storage, store at -20°C, avoiding freeze/thaw cycles.</td>
</tr>
</tbody>
</table>

### Species Reactivity

<table>
<thead>
<tr>
<th>Tested species reactivity</th>
<th>Published species reactivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human, Mouse, Rat</td>
<td>Rat, Human, Mouse, Not Applicable</td>
</tr>
</tbody>
</table>

### Tested Applications

<table>
<thead>
<tr>
<th>Test</th>
<th>Dilution *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dot blot (DB)</td>
<td>0.1-1 µg/ml</td>
</tr>
<tr>
<td>ELISA (ELISA)</td>
<td>0.1-1 µg/ml</td>
</tr>
<tr>
<td>Immunohistochemistry (IHC)</td>
<td>1-5 µg/ml</td>
</tr>
<tr>
<td>Neutralization (Neu)</td>
<td>Assay Dependent</td>
</tr>
</tbody>
</table>

### Published Applications

- **Western Blot (WB)**: See 6 publications below
- **Miscellaneous PubMed (MISC)**: See 11 publications below
- **Immunocytochemistry (ICC)**: See 4 publications below
- **ELISA (ELISA)**: See 1 publications below
- **Immunoprecipitation (IP)**: See 1 publications below
- **Dot blot (DB)**: See 6 publications below
- **Immunohistochemistry (IHC)**: See 1 publications below
- **Immunohistochemistry (Parafin, Frozen) (IHC (P, F))**: See 2 publications below
- **Immunohistochemistry - Free Floating (IHC (Free))**: See 1 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

This antibody recognizes amino acid sequence-independent oligomers of proteins or peptides. A11 does not recognize monomers or mature fibers of proteins or peptides. A11 reacts with soluble AB40 oligomers and does not react with soluble low molecular weight AB40 or AB40 fibrils. A11 recognizes oligomeric species of several other amyloidogenic polypeptides including AB42, human insulin, prion, polyglutamine, lysozyme, alpha-synuclein and yeast prion Sup35.

Oligomeric AB42 is recommended as a positive control, monomeric and fibrillar AB42 as negative controls.

### Background/Target Information

Many degenerative diseases are known to be related to the accumulation of misfolded proteins called, amyloid fibrils. Soluble amyloid oligomers are considered as the principal pathogenic species which play an important role in the formation of amyloid fibrils; therefore, oligomers are involved in the pathogenesis of the many neurodegenerative diseases. This anti-oligomer antibody provides a facile means of assessing the significance of oligomers in disease pathogenesis.

Oligomer A11 Antibody (AHB0052) in WB
Rabbit Anti-Oligomer (A11) Polyclonal Antibody. 1 µg of soluble Abeta42 monomers, Abeta42 oligomers, Ab42 fibrils, IAPP oligomers and alpha-Synuclein oligomers was applied to a nitrocellulose membrane and probed with Rabbit Anti-oligomer (A11) polyclonal antibody (top row; Product # AHB0052) or with 6E10 (bottom row, Product # 44-352). Anti-oligomer antibody recognizes all types of oligomers, but not monomers or fibrils. 6E10 recognizes all species of Abeta without regard to conformation, but not IAPP or alpha-Synuclein.
## PubMed References For Oligomer A11 Polyclonal Antibody

### 6 Western Blot References

<table>
<thead>
<tr>
<th>Species / Dilution</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Applicable / Not Cited</td>
<td>AHB0052 was used in western blot to study the reduction of lag-times for amyloid-beta (1-40) fiber formation but generates highly fragmented fibers due to methionine oxidation</td>
</tr>
</tbody>
</table>

**Biochimica et biophysica acta (Sep 2016; 1864: 1260)**

"Methionine oxidation reduces lag-times for amyloid-(1-40) fiber formation but generates highly fragmented fibers."

Author(s): Gu M, Viles JH

PubMed Article URL: http://dx.doi.org/10.1016/j.bbapap.2016.04.009

| Human / Not Cited | AHB0052 was used in western blot to investigate the link between metabolic and epigenetic deficits on reduced mitochondrial function |

**ACS chemical neuroscience (Apr 2015; 6: 588)**

"Novel antioxidants protect mitochondria from the effects of oligomeric amyloid beta and contribute to the maintenance of epigenome function."

Author(s): Mastroeni D, Khdour OM, Arce PM, Hecht SM, Coleman PD

PubMed Article URL: http://dx.doi.org/10.1021/cn500323q

| Human / 1:500 | AHB0052 was used in western blot to examine the aggregation and toxicity of melittin and pancreatic polypeptide |

**PloS one (Mar 2015; 10: null)**

"Cytotoxic helix-rich oligomer formation by melittin and pancreatic polypeptide."

Author(s): Singh PK, Ghosh D, Tewari D, Mohite GM, Carvalho E, Jha NN, Jacob RS, Sahay S, Banerjee R, Bera AK, Maji SK

PubMed Article URL: http://dx.doi.org/10.1371/journal.pone.0120346

| Mouse / 1 ug/ml | AHB0052 was used in immunocytochemistry and western blot to study the role of the amyloid core of the acrosomal matrix in sperm-zona pellucida interactions |

**Molecular and cellular biology (Jul 2014; 34: 2624)**

"Functional amyloids in the mouse sperm acrosome."

Author(s): Guyonnet B, Egge N, Cornwall GA

PubMed Article URL: http://dx.doi.org/10.1128/MCB.00073-14

| Mouse / 1:1000 | AHB0052 was used in western blot to study Abeta aggregation and oligomerization induced in a murine model of Alzheimer's disease by experimental traumatic brain injury |

**Journal of neurotrauma (Jan 2014; 31: 125)**

"Experimental traumatic brain injury induces rapid aggregation and oligomerization of amyloid-beta in an Alzheimer's disease mouse model."

Author(s): Washington PM, Morfity N, Parsadanian M, Zapple DN, Burns MP

PubMed Article URL: http://dx.doi.org/10.1089/neu.2013.3017

| Not Applicable / Not Cited | AHB0052 was used in western blot to examine the brains of non-demented high pathology controls individuals for mechanisms that protect against Alzheimer's disease |

**PloS one (Nov 2011; 6: null)**

"Alzheimer's disease and non-demented high pathology control nonagenarians: comparing and contrasting the biochemistry of cognitively successful aging."


PubMed Article URL: http://dx.doi.org/10.1371/journal.pone.0027291

### 11 Miscellaneous PubMed References

<table>
<thead>
<tr>
<th>Species / Dilution</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Applicable / Not Cited</td>
<td>AHB0052 was used to study the regional vulnerability in middle age that increases in the elderly by using redox proteomic profiling of neuroketal-added proteins in the human brain</td>
</tr>
</tbody>
</table>

**Free radical biology and medicine (Jun 2016; 95: 1)**

"Redox proteomic profiling of neuroketal-added proteins in human brain: Regional vulnerability at middle age increases in the elderly."

Author(s): Domínguez M, de Oliveira E, Odena MA, Porto R, Pamploña R, Ferrer I

PubMed Article URL: http://dx.doi.org/10.1016/j.freeradbiomed.2016.02.034


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 Product 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, all Products are intended for research only and are not to be used for any other purpose, including without limitation, unauthorized commercial uses, in vitro diagnostic uses, as, or in vivo therapeutic uses, or any type of consumption or application to human or animal.
AHB0052 was used in western blot to assess the effect of carnosic acid on apoptosis induced by A42 or A43 in human neuroblastoma cells.

**Human / Not Cited**

Neuroscience research (May 2015; 94: 1)

"Carnosic acid attenuates apoptosis induced by amyloid-1-42 or 1-43 in SH-SYSY human neuroblastoma cells."


PubMed Article URL: http://dx.doi.org/10.1016/j.neures.2014.12.003

AHB0052 was used in immunocytochemistry to characterize the structure of human islet polypeptide or amylin.

**Rat / 1:200**

European journal of medicinal chemistry (Jun 2014; 81: 442)

"Molecular and cytotoxic properties of hAPP17-29 and rAPP17-29 fragments: a comparative study with the respective full-length parent polypeptides."

Author(s): Tomasello MF, Sinopoli A, Attanasio F, Giuffrida ML, Campagna T, Milardi D, Pappalardo G

PubMed Article URL: http://dx.doi.org/10.1016/j.ejmech.2014.05.038

AHB0052 was used in western blot to study cellular inclusions in the Krabbe brain.

**Human / 1:1000**

The Journal of pathology (Apr 2014; 232: 509)

"Neuronal inclusions of -synuclein contribute to the pathogenesis of Krabbe disease."


PubMed Article URL: http://dx.doi.org/10.1002/path.4328

AHB0052 was used in western blot to show that RanBP9 overexpression accelerates loss of synaptic proteins in the murine brain.

**Mouse / Not Cited**

Nature communications (Mar 2014; 5: null)

"Reelin delays amyloid-beta fibril formation and rescues cognitive deficits in a model of Alzheimer’s disease."


PubMed Article URL: http://dx.doi.org/10.1038/ncoms4443

AHB0052 was used in western blot to characterize the novel autophagy inducer, GTM-1, and assess its effect in an Alzheimer's disease model.

**Mouse / Not Cited**

PloS one (Jan 2014; 9: null)

"RanBP9 overexpression accelerates loss of pre and postsynaptic proteins in the APE9 transgenic mouse brain."

Author(s): Wang H, Wang R, Xu S, Lakshmana MK

PubMed Article URL: http://dx.doi.org/10.1371/journal.pone.0085484

AHB0052 was used in western blot to study interaction between prion protein and amyloid-b.

**Human / Not Cited**

FASEB journal : official publication of the Federation of American Societies for Experimental Biology (May 2013; 27: 1847)

"The cellular prion protein traps Alzheimer’s A in an oligomeric form and disassembles amyloid fibers."

Author(s): Younan ND, Sarell CJ, Davies P, Brown DR, Viles JH

PubMed Article URL: http://dx.doi.org/10.1096/fj.12-222588

AHB0052 was used in immunocytochemistry to study the contribution of macroautophagy to lysosomal A accumulation.

**Human / 1:100**

Autophagy (Dec 2011; 7: 1528)

"Macroautophagy-generated increase of lysosomal amyloid-protein mediates oxidant-induced apoptosis of cultured neuroblastoma cells."

Author(s): Zheng L, Terman A, Hallbeck M, Dehvari N, Cowburn RF, Benedikz E, Kagedal K, Cedazo-Minguez A, Marcussen J

PubMed Article URL: http://dx.doi.org/doi: null

AHB0052 was used in dot blot to study interaction between prion protein and amyloid-b.

**Human / Not Cited**

The Journal of biological chemistry (Oct 2011; 286: 36086)

"Clustering and internalization of toxic amylin oligomers in pancreatic cells require plasma membrane cholesterol."

Author(s): Trikha S, Jeremic AM

PubMed Article URL: http://dx.doi.org/10.1074/jbc.M111.240762

AHB0052 was used in immunocytochemistry to study the role of the Reelin pathway in Alzheimer's disease pathogenesis.

**Mouse / Not Cited**

Nature communications (Mar 2014; 5: null)

"Reelin delays amyloid-beta fibril formation and rescues cognitive deficits in a model of Alzheimer’s disease."


PubMed Article URL: http://dx.doi.org/10.1038/ncoms4443

AHB0052 was used in western blot to show that RanBP9 overexpression accelerates loss of synaptic proteins in the murine brain.

**Mouse / Not Cited**

PloS one (Jun 2013; 8: null)

"Induction of autophagy by a novel small molecule improves a pathology and ameliorates cognitive deficits."

Author(s): Chu C, Zhang X, Ma W, Li L, Wang W, Shang L, Fu P

PubMed Article URL: http://dx.doi.org/10.1371/journal.pone.0065367

AHB0052 was used in dot blot to study interaction between prion protein and amyloid-b.

**Human / Not Cited**

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PubMed Article URL: http://dx.doi.org/10.1096/fj.12-222588

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Author(s): Zheng L, Terman A, Hallbeck M, Dehvari N, Cowburn RF, Benedikz E, Kagedal K, Cedazo-Minguez A, Marcussen J

PubMed Article URL: http://dx.doi.org/doi: null

AHB0052 was used in immunocytochemistry to study the role of the Reelin pathway in Alzheimer's disease pathogenesis.
**4 Immunocytochemistry References**

<table>
<thead>
<tr>
<th>Species / Dilution</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Applicable / Not Cited</td>
<td>AHB0052 was used in immunocytochemistry to assess reduction of pyramidal cell excitability due to intracellular solute alpha-synuclein oligomers</td>
</tr>
<tr>
<td>Not Applicable / 1:10,000</td>
<td>Molecular and cellular biology (Jul 2006; 26: 4982) &quot;Neuritic deposits of amyloid-beta peptide in a subpopulation of central nervous system-derived neuronal cells.&quot; Author(s): Muresan Z, Muresan V PubMed Article URL:<a href="http://dx.doi.org/10.1128/MCB.00371-06">http://dx.doi.org/10.1128/MCB.00371-06</a></td>
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</table>

**1 ELISA References**

<table>
<thead>
<tr>
<th>Species / Dilution</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Applicable / Not Cited</td>
<td>AHB0052 was used in ELISA and immunohistochemistry to study the retina of Octodon degus for Alzheimer's disease-related protein expression</td>
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</table>

**1 Immunoprecipitation References**

<table>
<thead>
<tr>
<th>Species / Dilution</th>
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</table>

**6 Dot blot References**

<table>
<thead>
<tr>
<th>Species / Dilution</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Applicable / Not Cited</td>
<td>AHB0052 was used in immunohistochemistry - frozen section and immunoprecipitation to investigate the role of Fbxo2 in regulating NMDAR subunits in the brain</td>
</tr>
</tbody>
</table>
AHB0052 was used in dot blot to study neuroinflammation-related gene regulation during normal aging and in sporadic Alzheimer disease in mice.

**Journal of neuropathology and experimental pathology** (Apr 2015; 74: 319)

"Neuroinflammatory signals in Alzheimer disease and APP/PS1 transgenic mice: correlations with plaques, tangles, and oligomeric species."


PubMed Article URL: http://dx.doi.org/10.1097/NEN.0000000000000176

**Species / Dilution**
**Summary**

AHB0052 was used in immunohistochemistry to investigate the relationship between beta-amyloid plaques and microglia.

Not Applicable / Not Cited

"Microglia constitute a barrier that prevents neurotoxic prefibrillar A42 hotspots around plaques."

Author(s): Condello C, Yuan P, Schaich A, Grutzendler J

PubMed Article URL: http://dx.doi.org/10.1038/ncomms11372

### 1 Immunohistochemistry References

<table>
<thead>
<tr>
<th>Species / Dilution</th>
<th>Summary</th>
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</thead>
</table>

### 2 Immunohistochemistry (Paraffin, Frozen) References

<table>
<thead>
<tr>
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<th>Summary</th>
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</table>

### 1 Immunohistochemistry - Free Floating References

<table>
<thead>
<tr>
<th>Species / Dilution</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human / Not Cited</td>
<td>Nature communications (Jan 2015; 6: null) &quot;Microglia constitute a barrier that prevents neurotoxic prefibrillar A42 hotspots around plaques.&quot; Author(s): Condello C, Yuan P, Schaich A, Grutzendler J PubMed Article URL: <a href="http://dx.doi.org/10.1038/ncomms11372">http://dx.doi.org/10.1038/ncomms11372</a></td>
</tr>
</tbody>
</table>


Thermo Fisher Scientific
3747 N. Meridian Road
Rockford, IL 61105 USA

thermofisher.com/contactus
AHB0052 was used in immunohistochemistry - free floating to examine the Reelin accumulation of Reelin in amyloid-like deposits during ageing.

Neurobiology of aging (May 2009; 30: 697)
"Age-related accumulation of Reelin in amyloid-like deposits."
PubMed Article URL: http://dx.doi.org/10.1016/j.neurobiolaging.2007.08.011