

Alzheimer, Demenz, Parkinson, Hirnatrophie durch Spirochaeten und andere Erreger von Infektionskrankheiten
Alzheimer's disease, dementia, Parkinson's disease, brain atrophy caused by spirochetes and other pathogens of infectious diseases

MacDonald AB (2006) <http://www.alzheimersanddementia.com/article/S1552-5260%2806%2903848-9/fulltext>
Alzheimer's & Dementia: The Journal of the Alzheimer's Association, 2 (3), Supplement, **S207, S275, S433**. MacDonald AB [Alzheimer Borreliosis](http://alzheimerborreliosis.net/) <http://alzheimerborreliosis.net/presentations/>

[Miklossy J.](http://www.ncbi.nlm.nih.gov/pubmed/23346260) (2012) **Chronic or late lyme neuroborreliosis**: analysis of evidence compared to chronic or late **neurosyphilis**. *Open Neurol J.* 6, 146-57
<http://www.ncbi.nlm.nih.gov/pubmed/23346260>

Bauer J. (2013) **Alzheimer Forum** <http://www.alzheimerforum.de/4/1/2/psychobiologie.html>

Corder EH et al. (1993) **Gene dose of apolipoprotein E type 4 allele and the risk of Alzheimer's disease in late onset families**. *Science.* 261 (5123), 921-923. [PMID 8346443](https://pubmed.ncbi.nlm.nih.gov/8346443/)

Bu G (2009) **Apolipoprotein E and its receptors in Alzheimer's disease: pathways, pathogenesis and therapy**. *Nat. Rev. Neurosci.* 10(5) 333-344. [PMID 19339974](https://pubmed.ncbi.nlm.nih.gov/19339974/)
[doi:10.1038/nrn2620](https://doi.org/10.1038/nrn2620)

Jucker M (2015) **Alzheimer und Gen-Mutation**
<https://www.youtube.com/watch?v=bVqh5XD5A7k>

Jucker M (2017) **Fokus Demenz**. <https://www.youtube.com/watch?v=pm2YMa92gJw>

(2016) **Prion und Alzheimer** <http://www.erlebnishaft.de/prione.pdf>

(2016) **Microbes and Alzheimer's Disease. Editorial.**

<http://content.iospress.com/articles/journal-of-alzheimers-disease/jad160152>
https://www.google.de/search?q=Microbes+and+Alzheimer%92s+Disease&hl=de&btnG=Google+Search&gws_rd=ssl
<http://content.iospress.com/download/journal-of-alzheimers-disease/jad160152?id=journal-of-alzheimers-disease%2Fjad160152>

Boxmeyer L. (2017) **Are the Infectious Roots of Alzheimer's Buried Deep in the Past ?** *J Mol Path Epidemiol.* 3, 2 www.rense.com/general96/ALZHEIMERS.pdf

Basis: Genug Schlaf, Bewegung, soziale Interaktion, gesunde Ernährung, menschliche Wärme
Based are: enough sleep, plenty of exercise, social interaction, healthy diet, human warmth

[Reitz Chr, Tang M-X, Schupf N et al.](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3068839/) (2010) **A Summary Risk Score for the Prediction of Alzheimer Disease in Elderly Persons**. *Arch Neurol.* 67(7), 835-841. doi:10.1001/archneurol.2010.136.
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3068839/>
"Risk factors contributing to the risk score were age, sex, education, ethnicity, APOE ε4 genotype, history of diabetes, hypertension or smoking, high-density lipoprotein levels, and waist to hip ratio. The resulting risk score predicted dementia well".

[Bredesen DE](https://pubmed.ncbi.nlm.nih.gov/25324467/) (2014) **Reversal of cognitive decline: a novel therapeutic program**. *Aging (Albany NY).* 6(9), 707-17. [http://www.ncbi.nlm.nih.gov/pubmed/25324467](https://pubmed.ncbi.nlm.nih.gov/25324467/) <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4221920/>
<https://museslabs.com/wp-content/uploads/2016/03/MEND-Overview.pdf>

Visual signs and symptoms in patients with the visual variant of Alzheimer disease.
https://www.google.de/search?q=visual+signs+and+symptoms+in+patients&hl=de&btnG=Google+Search&gws_rd=ssl

(2006) Borrelieninfektion, Therapieversager, Halbwertszeit v. Immunglobulinen und DNA. Borrelia infection, treatment failures, half-life of Immunoglobulins and DNA
<http://www.erlebnishaft.de/dauerheilung.pdf>

„Die maximale Latenzzeit bis zum Auftreten von Krankheitssymptomen betrug acht Jahre.... Daher kann heute als geklärt gelten, dass die Lyme-Borreliose eine primär chronisch verlaufende Infektionskrankheit ist, bei der es in Analogie zur Syphilis keine Spontanheilung gibt. Die These eines „Durchseuchungstiters“ im Sinne einer durchgemachten, spontan überstandenen Infektion konnte nie belegt werden und sollte heute obsolet sein“.

“The maximum latency to onset of disease symptoms was eight years. The thesis of a "Durchseuchungstiters" in the sense of had taken place spontaneously recovering from infection could never be substantiated and should now be obsolete”.

Diagnostic - Therapy - Booklet on Borrelia and Co - Infections for Clinicians and Practitioners.

Literatur dokumentierte Wirts-Eigenschaften und Infekt - Ursachen bei der Alzheimer Krankheit, Demenz, Parkinson, Hirnatrophie (Prione s.o. zusätzlich)
Literary - documented characteristics of the host and infection causes in Alzheimer's disease, dementia, parkinson's, brain atrophy (prions see above as well)

Immunsystem

Mice lacking functional B and T cells: Späni C (2015)

Transgenic Mice: Jucker M (2015, 2017)

Neuroglia

Soreq L et al. (2017) **Major shifts in glial regional identity are a transcriptional hallmark of human brain aging.** Cell Reports. 18(2), p557–570, DOI: 10.1016/j.celrep.2016.12.011

[http://www.cell.com/cell-reports/abstract/S2211-1247\(16\)31684-9](http://www.cell.com/cell-reports/abstract/S2211-1247(16)31684-9)

[http://www.cell.com/cell-reports/pdf/S2211-1247\(16\)31684-9.pdf](http://www.cell.com/cell-reports/pdf/S2211-1247(16)31684-9.pdf)

Viruses

Virus triggers chronic illnesses and chronic infections, health, and the so called autoimmune diseases

Immunsuppressive Virusarten, Bakterien und Protozoen

Virus, Bakterium und Immunsystem

Herpes simplex virus Type 1 (HSV1)

Wisniewsky HM (1978) Saldanha J (1986, 2012) Jamieson GA (1991) Stanley LC (1994) Beffert U (1998) Itzhaki RF (1997, 2008, 2014) Hemling N (2003) Wozniak MA (2007, 2009, 2011) Zambrano A (2008), Letenneur L (2008) De Chiara G (2010) Cheng SB (2011), Lerchundi R (2011) Bearer EL (2013), Carter CJ (2013), Ball MJ (2013) **Lövheim H** (2014), **Mancuso R** (2014), Martin CO (2014) Bourgade K (2015, 2016), Civitelli L (2015), Gillet L (2015), Piacentini R (2015), Lövheim H (2 x 2015), **Harris SA** (2015)

HIV Virus

Esiri MM (1998) Smith DB (2014)

Bacteria and misfolded proteins

Borrelien Behandlung mit Antibiotika bei Menschen Lyme disease treatment with antibiotics in humans

Borrelia, oral treponemata

MacDonald AB (1986, 1987, 1988, 4 x 2006, 2007, 2008, 2016), Pappolla MA (1989), Miklossy J (1990, 1993, 1994, 1998, 2004, 3 x 2006, 3 x 2008, 2011, 2012, 2013, 2014, 2015, 2016), Riviere GR (1991), Waniek C (1995) Riviere GR (2002) Green DA (2005) Meer-Scherrer L (2006) Blanc F (2014), Maheshwari P (2014), Blanc F (2014), Allen HB (2016), Zahn (2016), Ide (2016), Bastian (2017)

Chlamydia, Chlamydochila, CPN

Chlamydia pneumoniae

Balin BJ (1998, 2008) Little CS (2004) Boelen E (2007) Maheshwari P, (2014, 2015)

Propionibacterium acnes

Kornhuber HH (1996)

Helicobacter pylori

Kountouras J (2006)

Mycoses, fungi

Pisa D (2013, 2015, 2017) Alonso R (2 x 2014, 2017), AlzForum (2015)

Air pollution, Nanoparticles

Kirschvink JL (1992) Pankhurst Q (2008) Moulton PV (2012) Teller S (2015) Chau-Ren Jung (2015)

Toxins

Portelius E (2016), Killin LOJ (2016), Mahler B (2016), Mirza A (2017)

Leitlinie Demenz, guideline dementia

<http://www.dgn.org/leitlinien/3176-leitlinie-diagnose-und-therapie-von-demenzen-2016>

Kratz T (2017) **Diagnostik und Therapie von Verhaltensstörungen bei Demenz.** Deutsches Ärzteblatt 114(26), 447-454

<https://www.aerzteblatt.de/archiv/191886/Diagnostik-und-Therapie-von-Verhaltensstoerungen-bei-Demenz>

Possibilities for early detection

Coffman B (2017) **Detecting Alzheimer's disease earlier using ... Greebles?** University of Louisville.

<http://uoflnews.com/releases/detecting-alzheimers-disease-earlier-using-greebles/>

Mason, E et al. (2017) **Family History of Alzheimer's Disease is Associated with Impaired Perceptual Discrimination of Novel Objects.** *Journal of Alzheimer's Disease* , 57(3), 735-745 DOI: 10.3233/JAD-160772

<http://content.iospress.com/articles/journal-of-alzheimers-disease/jad160772>

Alzheimer A (1906) Über eine eigenartige Erkrankung der Hirnrinde. Vortrag in der Versammlung Südwestdeutscher Irrenärzte in Tübingen am 3. November 1906. Allgemeine Zeitschrift für Psychiatrie und psychisch-gerichtliche Medizin 64.

Fischer O (1910) Die presbyoprene demenz, deren anatomische grundlage und klinische abgrenzung. Z Gesamte Neurol Psychiatr 3, 371–471.

Alzheimer A. (1911) Über eigenartige Krankheitsfälle des späteren Alters. Zeitschr f die ges Psychiatr u Neurol 4, 356-385

Bannwarth, A. (1944) **Zur Klinik und Pathogenese der chronischen lymphocytären Meningitis.** Arch. Psychiatr.Nervenkr. 117, 161-185.

Wisniewsky HM (1978) **Possible viral etiology** of neurofibrillary changes and neuritic plaques. In Alzheimer's Disease: Senile Dementia and Related Disorders (Aging, Vol 7), Katzman R, Terry RD, Bick KL, eds. Raven Press, New York, pp. 555-557.

Khachaturian ZS (1985) Diagnosis of Alzheimer's disease. Arch Neurol 42, 1097–1105.

MacDonald, A. B. (1986) **Borrelia** in the brains of patients dying with **dementia.** J. Am. Med. Assoc. 256, 2195-2196.

Saldanha J, Sutton RN, Gannicliffe A et al. (1986) Detection of **HSV1 DNA** by in situ hybridisation in human brain after immunosuppression. J Neurol Neurosurg Psychiatry 49, 613–619.

MacDonald AB, Miranda JM (1987) Concurrent neocortical **borreliosis and Alzheimer's disease.** Hum Pathol 18(7), 759-61. [Abstract](#)

- MacDonald AB (1988) [Concurrent Neocortical Borreliosis and Alzheimer's Disease: Demonstration of a Spirochetal Cyst Form](#) . Annals of the New York Academy of Sciences, Lyme Disease and Related Disorders. 539, 468–470
- Pappolla MA, Omar R, Saran B, et al. (1989) Concurrent **neuroborreliosis and Alzheimer's disease**: analysis of the evidence. Hum Pathol 20(8), 753-7. [Abstract](#)
- Miklossy J, Kuntzer T, Bogousslavsky J, Regli F, Janzer RC. (1990) [Meningovascular form of neuroborreliosis](#): Similarities between neuropathological findings in a case of **Lyme disease** and those occurring in tertiary neurosyphilis. Acta Neuropathol 80. 568-572.
- Jamieson GA, Maitland NJ, Wilcock GK, Craske J, Itzhaki RF (1991) **Latent herpes simplex virus type 1** in normal and Alzheimer's disease brains. J Med Virol 33, 224–227.
- Braak H, Braak E (1991) Neuropathological staging of Alzheimer-related changes. Acta Neuropathol (Berl) 82, 239–259.
- Jamieson GA, Maitland NJ, Wilcock GK, Craske J, Itzhaki RF (1991) Latent herpes simplex virus type 1 in normal and Alzheimer's disease brains. J Med Virol 33, 224–227.
- Riviere GR, Weisz SK, Adams DF, Thomas DD (1991) **Pathogen-related oral spirochetes from dental plaque are invasive**. Infect Immun 59, 3377–3380
- Miklossy J, Van der Loos H. (1991) **The long distance effects of brain lesions: A study of myelinated pathways in the human brain using polarizing and fluorescence microscopy**. J Neuropathol Exp Neurol 50, 1-15.
- Mirra SS, Heyman A, McKeel D et al (1991) The Consortium to Establish a Registry for Alzheimer's Disease (CERAD). II. Standardization of the neuropathologic assessment of **Alzheimer's disease**. Neurology 41, 479-86. [Abstract/FREE Full Text](#)
- Kirschvink JL, Kobayashi-Kirschvink A, Woodford BJ (1992) **Magnetite biomineralization in the human brain**. Proceedings of the National Academy of Sciences of the United States of America, 89 (16). pp. 7683-7687. ISSN 0027-8424. <http://resolver.caltech.edu/CaltechAUTHORS:20130211-134215131> <http://web.gps.caltech.edu/~jkirschvink/pdfs/PNASbrainMagnetite.pdf>
- Braak H, Braak E, Bohl J (1993) Staging of Alzheimer-related cortical destruction. Eur Neurol 33, 403–440.
- Mirra SS, Hart MN, Terry RD (1993) Making the diagnosis of Alzheimer's disease. Arch Pathol Lab Med 113, 132–144.
- Miklossy J (1993) [Alzheimer's disease - A spirochetosis?](#) Neuroreport 4(7), 841-8. [Abstract](#)
- Miklossy J (1993) **Alzheimer's disease--a spirochetosis?** Neuroreport 4(9), 1069. [Full Citation](#)
- Braak H, Braak E, Bohl J (1993) Staging of Alzheimer-related cortical destruction. Eur Neurol 33, 403–408.
- Miklossy J, Kasas S, Janzer RC, et al. (1994) Further ultrastructural evidence that **spirochaetes may play a role in the aetiology of Alzheimer's disease**. Neuroreport 5(10), 1201-4. [Abstract](#)

Stanley LC, Mrak RE, Woody RC et al. (1994) Glial cytokines as neuropathogenic factors in **HIV infection**: Pathogenic similarities to Alzheimer's disease. *J Neuropathol Exp Neurol* 53, 231–238.

Baker HF, Ridley RM, Duchen LW, Crow TJ, Bruton CJ (1994) **Induction of beta (A4)-amyloid in primates** by injection of Alzheimer's disease brain homogenate. Comparison with transmission of spongiform encephalopathy. *Mol Neurobiol* 8, 25–39.

Waniek C, Prohovnik I, Kaufman MA, Dwork AJ. (1995) Rapidly progressive frontal-type dementia associated with **Lyme disease**. *J Neuropsychiatry Clin Neurosci.* 7(3), 345-7.

Itzhaki RF, Lin WR, Shang D, Wilcock GK, Faragher B, Jamieson GA (1997) **Herpes simplex virus type 1** in brain and risk of Alzheimer's disease. *Lancet* 349, 241–244.

Kornhuber HH (1995) Chronic anaerobic cortical infection in Alzheimer's disease: **Propionibacterium acnes**. *Neurol Psych Brain Res* 3, 177–182.

Kornhuber HH (1996) **Propionibacterium acnes** in the cortex of patients with Alzheimer's disease. *Eur Arch Psychiatry Clin Neurosci* 246, 108–109.

Itzhaki RF, Lin WR, Shang D, Wilcock GK, Faragher B, Jamieson GA (1997) **Herpes simplex virus type 1** in brain and risk of Alzheimer's disease. *Lancet* 349, 241–244.

Balin BJ, Gérard HC, Arking EJ et al. (1998) **Identification and localization of Chlamydia pneumoniae in the Alzheimer's brain**. *Med Microbiol Immunol* 187, 23–42
<http://www.ncbi.nlm.nih.gov/pubmed/9749980>

Gutacker M, Valsangiacomo C, Balmelli T, et al (1998) **Arguments against the involvement of Borrelia burgdorferi sensu lato in Alzheimer's disease**. *Res Microbiol* 149, 31-7. [Medl.Abstract](#)

Esiri MM, Biddolph SC, Morris CS (1998) Prevalence of Alzheimer plaques in **AIDS**. *J Neurol Neurosurg Psychiatry* 65, 29–33.

[Balin BJ](#), [Gérard HC](#), [Arking EJ](#) et al. (1998) **Identification and localization of Chlamydia pneumoniae in the Alzheimer's brain**. [Med Microbiol Immunol.](#) 187(1), 23-42.

Beffert U, Bertrand P, Champagne D, Gauthier S, Poirier J (1998) **HSV-1** in brain and risk of Alzheimer's disease. *Lancet* 351, 1330–1331.

Miklossy J (1998) **Chronic inflammation and amyloidogenesis in Alzheimer's disease: Putative role of bacterial peptidoglycan, a potent inflammatory and amyloidogenic factor**. *Alzheimers Rev* 3, 45–51.

Miklossy J, Taddei K, Martins R et al. (1999) **Alzheimer disease**: curly fibers and tangles in organs other than brain. *J Neuropathol Exp Neurol.* 58, 803-814.

McLaughlin R, Kin NM, Chen MF, et al. (1999) **Alzheimer's disease may not be a spirochetosis**. *Neuroreport* 10(7), 1489-91. [Abstract](#)

Lue LF, Kuo YM, Roher AE, Brachova L, Shen Y, Sue L, Beach T, Kurth JH, Rydel RE, Rogers J (1999) Soluble **amyloid beta peptide concentration** as a predictor of synaptic change in Alzheimer's disease. *Am J Pathol* 155, 853-862

Schenk D et al, (1999) **Immunization with amyloid-b attenuates Alzheimer-disease-like pathology in the PDAPP mouse.** Nature, 400, 173-7.

Marques AR, Weir SC, Fahle GA, et al. (2000) **Lack of evidence of Borrelia involvement in Alzheimer's disease.** J Infect Dis 182(3), 1006-7. [Full Citation](#)

Decoding darkness: [The search for the genetic causes of Alzheimer's disease](http://www.worldcat.org/title/decoding-darkness-the-search-for-the-genetic-causes-of-alzheimers-disease/oclc/45226067) (Book, 2000). <http://www.worldcat.org/title/decoding-darkness-the-search-for-the-genetic-causes-of-alzheimers-disease/oclc/45226067>

Kane MD, Lipinski WJ, Callahan MJ et al. (2000) **Evidence for seeding of beta-amyloid by intracerebral infusion of Alzheimer brain extracts in beta-amyloid precursor protein-transgenic mice.** J Neurosci 20, 3606–3611.

Weiner HL et al. (2000) Nasal administration of amyloid-b peptide decreases cerebral amyloid burden in a mouse model of Alzheimer's disease. Annals of Neurology, 48, 567-79

Janus C et al. (2000) Ab peptide immunization reduces behavioural impairment and plaques in a model of Alzheimer's disease. Nature, 408, 979-82.

Morgan D et al. (2000) Ab peptide vaccination prevents memory loss in an animal model of Alzheimer's disease. Nature, 408, 982-5

Sigurdsson EM et al. (2001) Immunization with a nontoxic/nonfibrillar amyloid-b homologous peptide reduces Alzheimer's disease-associated pathology in transgenic mice, American Journal of Pathology, 159[2], 439-47.

Morgan D et al. (2001) **Short-term Ab vaccinations do not improve cognitive performance in aged, cognitively-impaired APP+PS1 transgenic mice.** slide presentation #687.11 SFN meeting.

Marques AR, Straus SE, Fahle G, Weir S, Csako G, Fischer SH (2001) **Lack of association between HSV-1 DNA in the brain, Alzheimer's disease and apolipoprotein E4.** J Neurovirol 7, 82–83.

Zajkowska JM, Hermanowska-Szpakowicz T (2002) New aspects of the pathogenesis of **lyme disease.** Przegl Epidemiol 57-67. [Abstract](#)

Suter O-C, Sunthorn T, Kraftsik R, Straubel J, Darekar P, Khalili K, Miklossy J (2002) **Cerebral Hypoperfusion** Generates Cortical Watershed Microinfarcts in Alzheimer Disease. Stroke 33, 1986-1992

Riviere GR, Riviere KH, Smith KS (2002) **Molecular and immunological evidence of oral Treponema in the human brain and their association with Alzheimer's disease.** Oral Microbiol Immunol 17, 113-118.

Hardy J, Selkoe DJ (2002) The **amyloid hypothesis of Alzheimer's disease:** progress and problems on the road to therapeutics. Science 297, 353-6

Hemling N, Roytta M, Rinne J, Pollanen P, Broberg E, Tapio V, Vahlberg T, Hukkanen V (2003) **Herpesviruses in brains in Alzheimer's and Parkinson's diseases.** Ann Neurol 54, 267–271.

Sunderland T, Linker G, Mirza N, et al. (2003) Decreased beta-amyloid1–42 and increased tau levels in cerebrospinal fluid of patients with Alzheimer disease. JAMA 289, 2094–103 [CrossRef](#) [MEDLINE](#)

Miklossy J, Khalili K, Gern L, Ericson RL, Darekar P, Bolle L, Hurlimann J, Paster BJ. (2004) [Borrelia burgdorferi persists in the brain in chronic Lyme neuroborreliosis](http://www.miklossy.ch/media/Bb_AlzheimerJAD.pdf) and may be associated with **Alzheimer disease**. J Alzheimer's Disease 6 (6), 1-11.
http://www.miklossy.ch/media/Bb_AlzheimerJAD.pdf

Miklossy J, Khalili K, Gern L, et al. (2004) Borrelia burgdorferi persists in the brain in chronic lyme neuroborreliosis and may be associated with **Alzheimer disease**. J Alzheimers Dis 6(6), 639-49; **discussion** 673-681. [Abstract](#)

Little CS, Hammond CJ, MacIntyre A et al. (2004) **Chlamydia pneumoniae** induces Alzheimer-like amyloid plaques in brains of BALB/c mice. Neurobiol Aging 25, 419–429.

Ruitenbergh A, den Heijer T, Bakker SL, van Swieten JC, Koudstaal PJ, Hofman A, Breteler MM (2005) **Cerebral hypoperfusion** and clinical onset of dementia: the Rotterdam study. Ann Neurol 57, 789-94

Little CS, Bowe A, Lin R, Litsky J, Fogel RM, Balin BJ, Fresa-Dillon KL (2005) Age alterations in extent and severity of experimental intranasal infection with **Chlamydomydia pneumoniae** in BALB/c mice. Infect Immun 73, 1723–1734.

Papassotiropoulos A, Lambert JC, Wavrant-De Vrieze F et al. (2005) Cholesterol 25-hydroxylase on chromosome 10q is a susceptibility gene for sporadic Alzheimer's disease. Neurodegener Dis 2, 233–241.

Osvaldo P, Almeida and Nicola T. Lautenschlager. (2005) **Dementia associated with infectious diseases**. International Psychogeriatrics 17, Supp., S65–S77.

Mori I, Nishiyama Y, Yokochi T, Kimura Y (2005) **Olfactory transmission of neurotropic viruses**. J Neurovirol 11, 129–137.

Green DA, Masliah E, Vinters HV, Beizai P, Moore DJ, Achim CL (2005) Brain deposition of beta-amyloid is a common pathologic feature in **HIV positive patients**. AIDS 19, 407–411.

Bentahir M et al. (2006) **Presenilin clinical mutations** can affect γ -secretase activity by different mechanisms. Journal of Neurochemistry 96, 732-742
<http://www.ncbi.nlm.nih.gov/pubmed/16405513>

Spasic D et al. (2006) **Presenilin-1** maintains a nine transmembrane topology throughout the secretory pathway. J. Biol. Chem. 281(36), 26569-26577,
<http://www.ncbi.nlm.nih.gov/pubmed/16846981>

Miklossy J, Kis A, Radenovic A, Miller L, Forro L, Martins RN, Reiss K, Darbinian N, Darekar P, Mihaly L, Khalili K. (2006) [Beta-amyloid deposition and Alzheimer's type changes induced by Borrelia](#) spirochetes. Neurobiol Aging 27, 228-236.

Kountouras J, Tsolaki M, Gavalas E, Boziki M, Zavos C, Karatzoglou P, Chatzopoulos D, Venizelos I (2006) Relationship between **Helicobacter pylori infection** and Alzheimer disease. Neurology 66, 938–940.

[Guo JP](#), [Arai T](#), [Miklossy J](#), [McGeer PL](#) (2006) A β and tau form soluble complexes that may promote self aggregation of both into the insoluble forms observed in Alzheimer's disease. PNAS 103(6) <http://www.pnas.org/content/103/6/1953.long#>

Meyer-Luehmann M, Coomaraswamy J et al. (2006) **Exogenous induction of cerebral beta-amyloidogenesis is governed by agent and host**. Science 313, 1781–1784.

Ridley RM, Baker HF, Windle CP, Cummings RM (2006) Very long term studies of the seeding of beta-amyloidosis in primates. *J Neural Transm* 113, 1243–1251.

Meer-Scherrer L, Chang Loa C, Adelson ME, et al. (2006) **Lyme disease associated with Alzheimer's disease**. *Curr Microbiol* 52(4), 330-2. [Abstract](#)

MacDonad AB (2006) **In situ DNA hybridization study of granulovacuolar degeneration in human Alzheimer autopsy neurons for flagellin b transcriptomes of Borrelia burgdorferi**. *Alzheimer's Dis Dementia* 2 (Suppl. 1), 207.

MacDonald AB (2006) [Plaques of Alzheimer's disease originate from cysts of Borrelia burgdorferi, the Lyme disease spirochete](#), *Medical Hypothesis*, 67(3), 592-60

MacDonald AB (2006) **Alzheimer's neuroborreliosis** with trans-synaptic spread of infection and neurofibrillary tangles derived from **intraneuronal spirochetes**. *Med Hypotheses* 68(4), 822-5. [Abstract](#)

MacDonald AB (2006) [Cystic borrelia in Alzheimer's disease and in non-dementia neuroborreliosis](#). **Alzheimer's & Dementia: The Journal of the Alzheimer's Association**, 2 (3), Supplement, Page S207, S275, S433

MacDonald AB (2006) [Transfection "Junk" DNA – a link to the pathogenesis of Alzheimer's disease?](#) *Med Hypotheses*. 66(6), 1140-1

MacDonald AB (2006) *Alzheimer's & Dementia: The Journal of the Alzheimer's Association*, 2 (3), Supplement, S207, S275, S433.

Riek R (2006) [Cell biology: Infectious Alzheimer's disease?](#) *Nature* 444, 429-431

Miklossy J, Rosemberg S, McGeer PL (2006) **Beta amyloid deposition in the atrophic form of general paresis in Alzheimer's Disease**. *New advances. Proceedings of the 10th International Congress on Alzheimer's Disease (ICAD)*. Iqbal K, Winblad B, Avila J, eds. Medimond, International Proceedings, pp. 429-433.

Miklossy J, Kis A, Radenovic A, Miller L, Forro L, Martins R, Reiss K, Darbinian N, Darekar P, Mihaly L, Khalili K (2006) **Beta-amyloid deposition and Alzheimer's type changes induced by Borrelia spirochetes**. *Neurobiol Aging* 27, 228–236.

Boelen E, Stassen FR, van der Ven AJ et al. (2007) Detection of amyloid beta aggregates in the brain of BALB/c mice after **Chlamydia pneumoniae infection**. *Acta Neuropathol* 114, 255–261.

Wiltfang J, Esselmann H, Bibl M, et al. (2007) Amyloid beta peptide ratio 42/40 but not A beta 42 correlates with phospho-Tau in patients with low and high-CSF A beta 40 load. *J Neurochem* 101, 1053–9 [CrossRef](#) [MEDLINE](#)

MacDonald AB (2007) [Alzheimer's disease Braak Stage progressions: reexamined and redefined as Borrelia infection transmission through neural circuits](#). *Med Hypotheses*. 68(5), 1059-64

MacDonald AB (2007) [Alzheimer's neuroborreliosis with trans-synaptic spread of infection and neurofibrillary tangles derived from intraneuronal spirochetes](#). *Med Hypotheses*. 68(4), 822-5.

Haass C, Selkoe DJ (2007) Soluble protein oligomers in neurodegeneration: lessons from the **Alzheimer's amyloid beta-peptide**. *Nat Rev Mol Cell Biol* 8, 101-12

Wozniak MA, Itzhaki RF, Shipley SJ, Dobson CB (2007) **Herpes simplex virus infection** causes cellular beta-amyloid accumulation and secretase upregulation. *Neurosci Lett* 429, 95–100.

[Pankhurst Q, Hautot D, Khan N, Dobson J \(2008\) Increased levels of magnetic iron compounds in Alzheimer's disease. *J Alzheimers Dis.* 13\(1\), 49-52. <http://www.ncbi.nlm.nih.gov/pubmed/18334756>](#)

MacDonald, A. B. (2008) (on-line manuscript). Plaques of **Alzheimers disease** originate from **cysts of Borrelia burgdorferi**, the Lyme disease spirochete. Manuscript no. YMEHY-D-06-00134R1. Elsevier Editorial System™ for Medical Hypotheses. 5 pp.

Zambrano A, Solis L, Salvadores N, Cortes M, Lerchundi R, Otth C (2008) Neuronal cytoskeletal dynamic modification and neurodegeneration induced by infection with **herpes simplex virus type 1**. *J Alzheimers Dis* 14, 259–269.

Miklossy J, Steele JC, Yu Sch et al. (2008) Enduring involvement of tau, *b*-amyloid, *a*-synuclein, ubiquitin and TDP-43 pathology in the amyotrophic lateral sclerosis/parkinsonism–dementia complex of Guam (ALS/PDC). *Acta Neuropathol* DOI 10.1007/s00401-008-0439-2 <http://www.ncbi.nlm.nih.gov/pubmed/18843496>

Miklossy J. (2008) [Chronic inflammation and amyloidogenesis in Alzheimer's disease – role of spirochetes](#). *J. Alzheimer's Dis.* 13(4), 381-391 <http://www.j-alz.com/issues/13/vol13-4.html> [Abstract](#)

Miklossy J. (2008) [Biology and neuropathology of dementia in syphilis and Lyme disease](#). In Handbook of Clinical Neurology, 89 (3rd series) C Duyckaerts, I Litvan, Editors, 2008, Elsevier B.V. Chapter of Handbook of Neurology Handbook of Clinical Neurology,89, 825-44 <http://www.miklossy.ch/media/ChapterHandbookClinNeuroFinalPdf.pdf>

[Miklossy J, Kasas S, Zurn AD, McCall S, Yu S, McGeer PL. \(2008\) Persisting atypical and cystic forms of Borrelia burgdorferi and local inflammation in Lyme neuroborreliosis. *J. Neuroinflammation.* 5, 40 Doi: 10.1186/1742-2094-5-40.](#)

de la Monte SM, Wands JR (2008) **Alzheimer`s disease is type 3 diabetes-evidence reviewed**. *J Diabetes Sci Technol* 2(6), 1101-1113 <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2769828/>

Galbusera A, Tremolizzo L, Isella V, et al. (2008) **Lack of evidence for Borrelia burgdorferi seropositivity in Alzheimer disease**. *Alzheimer Dis Assoc Disord* 22(3), 308. [Full Citation](#)

[Vorträge zum NAR-Kongress "Training bei Demenz" vom 08.12.2008 \(Videofiles\)](#)

Letenneur L, Peres K, Fleury H et al. (2008) **Seropositivity to herpes simplex virus antibodies** and risk of Alzheimer's disease: A population-based cohort study. *PLoS One* 3, e3637.

Balin BJ , Little CS , Hammond CJ , Appelt DM , Whittum-Hudson JA , Gérard HC , Hudson AP (2008) **Chlamydia pneumoniae** and the etiology of late-onset Alzheimer's disease. *J Alzheimers Dis* 13, 371–380. <http://stephanie-on-health.blogspot.com/2009/12/10-evidence-that-infection-is.html>.

Itzhaki RF, Wozniak MA (2008) **Herpes simplex virus type 1** in Alzheimer's disease: The enemy within. *J Alzheimers Dis* 13, 393–405.

[Vorträge zum NAR-Seminar "Demenz" vom 19.02.2009 \(Videofiles\)](#)

Itzhaki RF, Wozniak MA (2009) **Apolipoprotein E**: Microbial friend or foe? In *Apoprotein Research*, Penfield LR, Nelson RT, Eds. Nova Biomedical, New York, pp. 99–112.

Holmes C, Cotterell D (2009) **Role of infection in the pathogenesis of Alzheimer's disease: implications for treatment**. *CNS Drugs* 23(12), 993-1002. [Abstract](#)

Holmes C, Cunningham C, Zotova E, Woolford J, Dean C, Kerr S, Culliford D, Perry VH (2009) **Systemic inflammation and disease progression in Alzheimer disease**. *Neurology*. 73(10), 768-74. [PubMed](#).

Duyckaerts C, Delatour B, Potier MC (2009) Classification and **basic pathology of Alzheimer disease**. *Acta Neuropathol* 118, 5-36

Sorensen AA (2009) **Alzheimer's Disease Research: Scientific Productivity and Impact of the Top 100 Investigators in the Field**. *Journal of Alzheimer's Disease*, 16, 451–465 ([pdf-Datei](#))

Aboul-Enein F, Kristoferitsch W (2009) Normal pressure hydrocephalus or neuroborreliosis? *Wien Med Wochenschr*. 159(1-2), 58-61.

Honjo K, van Reekum R, Rand Nicolaas, Verhoeff NPLG (2009) **Alzheimer's disease and infection: Do infectious agents contribute to progression of Alzheimer's disease?** *Alzheimer's and Dementia*. 5(4), 348-360

Wozniak MA, Mee AP, Itzhaki RF (2009) **Herpes simplex virus type 1 DNA** is located within Alzheimer's disease amyloid plaques. *J Pathol* 217, 131–138.

Mahley RW, Weisgraber KH, Huang Y (2009) **Apolipoprotein E**: Structure determines function, from atherosclerosis to Alzheimer's disease to AIDS. *J Lipid Res* 50 (Suppl), S183–S188.

Lambert JC, Heath S, Even G et al. (2009) Genome-wide association study identifies variants at *CLU* and *CR1* associated with Alzheimer's disease. *Nat Genet* 41: , 1094–1099.

Wozniak MA, Frost AL, Itzhaki RF (2009) Alzheimer's disease-specific tau phosphorylation is induced by **herpes simplex virus type 1**. *J Alzheimers Dis* 16, 341–350.

Savva GM, Wharton SB, Ince PG, Forster G, Matthews FE, Brayne C (2009) Medical Research Council Cognitive Function and Ageing Study. Age, neuropathology, and dementia. *N Engl J Med*. 360, 2302–9 [CrossRef](#) [MEDLINE](#)

Fonatsch C (2010) **The role of chromosome 21** in hematology and oncology. *Genes, chromosomes & cancer*. 49(6), 497–508, [ISSN 1098-2264](#), [doi:10.1002/gcc.20764](#), [PMID 20232485](#).

De Chiara G, Marcocci ME, Civitelli L et al. (2010) APP processing induced by **herpes simplex virus type 1 (HSV-1)** yields several APP fragments in human and rat neuronal cells. *PLoS One* 5, e13989.

Porcellini E, Carbone I, Ianni M, Licastro F (2010) **Alzheimer's disease gene signature** says: Beware of brain viral infections. *Immun Ageing* 7, 16.

Carter CJ (2010) **APP, APOE, complement receptor 1, clusterin and PICALM and their involvement in the herpes simplex life cycle.** *Neurosci Lett* 483, 96–100.

Jack CR Jr, Knopman DS, Jagust WJ, Shaw LM, Aisen PS, Weiner MW, Petersen RC, Trojanowski JQ (2010) Hypothetical model of **dynamic biomarkers of the Alzheimer's pathological cascade.** *Lancet Neurol* 9, 119-28

Querfurth HW, LaFerla FM (2010) Alzheimer's disease. *N Engl J Med* 362, 329–44 [CrossRef](#) [MEDLINE](#)

[Soscia SJ](#), [Kirby JE](#), [Washicosky KJ](#) et al. (2010) **The Alzheimer's disease-associated amyloid beta-protein is an antimicrobial peptide.** *PLoS One.* 5(3), e9505. doi: 10.1371/journal.pone.0009505. <http://www.ncbi.nlm.nih.gov/pubmed/20209079>
„Our findings suggest Abeta is a hitherto unrecognized AMP that may normally function in the innate immune system. This finding stands in stark contrast to current models of Abeta-mediated pathology and has important implications for ongoing and future AD treatment strategies.“

Nelson TJ (2011) What Causes Alzheimer's Disease? Theories of Alzheimer's disease. <http://www.randombio.com/alz.html>

Cheng SB, Ferland P, Webster P, Bearer EL (2011) **Herpes simplex virus** dances with amyloid precursor protein while exiting the cell. *PLoS One* 6, e17966.

Wozniak MA, Frost AL, Preston CM, Itzhaki RF (2011) Antivirals reduce the formation of key Alzheimer's disease molecules in cell cultures acutely infected with **herpes simplex virus type 1.** *PLoS One* 6, e25152.

Miklossy J (2011) Emerging roles of pathogens in **Alzheimer disease.** *Expert Rev Mol Med* e30. [Abstract](#)

Miklossy J (2011) **Alzheimer's disease - a neurospirochetosis.** Analysis of the evidence following Koch's and Hill's criteria. *J Neuroinflammation* 90. [Abstract](#)

Zlokovic BV (2011) **Neurovascular pathways** to neurodegeneration in Alzheimer's disease and other disorders. *Nat Rev Neurosci* 12, 723-38.

Vergheze PB, Castellano JM, Holtzman DM (2011) **Apolipoprotein E** in Alzheimer's disease and other neurological disorders. *Lancet Neurol* 10, 241–252.

Lambert JC, Zelenika D et al. (2011) Evidence of the association of BIN1 and PICALM with the AD risk in contrasting European populations. *Neurobiol Aging* 32, 756e11–e15.

Licastro F, Carbone I, Ianni M, Porcellini E (2011) **Gene signature in Alzheimer's disease and environmental factors: The virus chronicle.** *J Alzheimers Dis* 27, 809–817.

Lerchundi R, Neira R, Valdivia S et al. (2011) Tau cleavage at D421 by caspase-3 is induced in neurons and astrocytes infected with **herpes simplex virus type 1.** *J Alzheimers Dis* 23, 513–520.

Sperling RA, Aisen PS, Beckett LA et al. (2011) Toward defining the preclinical stages of Alzheimer's disease: recommendations from the National Institute on Aging-Alzheimer's Association workgroups on diagnostic guidelines for Alzheimer's disease. *Alzheimers Dement* 7, 280–92 [CrossRef](#) [MEDLINE](#) [PubMed Central](#)

Ill-Raga G, Palomer E, Wozniak MA et al. (2011) Activation of PKR causes amyloid beta-peptide accumulation via de-repression of BACE1 expression. *PLoS One* 6, e21456.

Leyton CE, Villemagne VL, Savage S, et al. (2011) Subtypes of progressive aphasia: application of the International Consensus Criteria and validation using (β)-amyloid imaging. *Brain* 134, 3030–43 [CrossRef](#) [MEDLINE](#)

Albert MS, DeKosky ST, Dickson D, et al. (2011) The diagnosis of mild cognitive impairment due to Alzheimer's disease: recommendations from the National Institute on Aging-Alzheimer's Association workgroups on diagnostic guidelines for Alzheimer's disease. *Alzheimers Dement* 7, 270–9 [CrossRef](#) [MEDLINE](#) [PubMed Central](#)

McKhann GM, Knopman DS, Chertkow H, et al. (2011) The diagnosis of dementia due to Alzheimer's disease: recommendations from the National Institute on Aging-Alzheimer's Association workgroups on diagnostic guidelines for Alzheimer's disease. *Alzheimers Dement* 7, 263–9 [CrossRef](#) [MEDLINE](#) [PubMed Central](#)

Moulton PV, Yang W (2012) **Air Pollution, Oxidative Stress, and Alzheimer's Disease. Review Article.** *Journal of Environmental and Public Health*. Volume 2012 (2012), Article ID 472751, 9 pages <http://dx.doi.org/10.1155/2012/472751>
<https://www.hindawi.com/journals/jep/2012/472751/citations/>

Wagner M, Wolf S, Reischies FM, et al. (2012) Biomarker validation of a cued recall memory deficit in prodromal Alzheimer disease. *Neurology* 78, 379–86 [CrossRef](#) [MEDLINE](#)

Bond M, Rogers G, Peters J, et al. (2012) The effectiveness and cost-effectiveness of donepezil, galantamine, rivastigmine and memantine for the treatment of Alzheimer's disease (review of Technology Appraisal No. 111): a systematic review and economic model. *Health Technol Assess*. 16, 1–470 [CrossRef](#) [MEDLINE](#) [PubMed Central](#)

Santana S, Recuero M, Bullido MJ, Valdivieso F, Aldudo J (2012) **Herpes simplex virus type I** induces the accumulation of intracellular beta-amyloid in autophagic compartments and the inhibition of the non-amyloidogenic pathway in human neuroblastoma cells. *Neurobiol Aging* 33, 430–433.

Kantarci K, Lowe VJ, Boeve BF, Weigand SD, Senjem ML, Przybelski SA, Dickson DW, Parisi JE, Knopman DS, Smith GE et al. (2012) Multimodality imaging characteristics of dementia with **Lewy bodies**. *Neurobiology of aging* 33, 2091–105.

Mattsson N, Rosén E, Hansson O, et al. (2012) Age and diagnostic performance of Alzheimer disease CSF biomarkers. *Neurology* 2012; 78: 468–76 [CrossRef](#) [MEDLINE](#) [PubMed Central](#)

Beach TG, Monsell SE, Phillips LE, Kukull W (2012) Accuracy of the clinical diagnosis of Alzheimer disease at National Institute on Aging Alzheimer Disease Centers, 2005–2010. *J Neuropathol Exp Neurol* 71, 266–73 [CrossRef](#) [MEDLINE](#) [PubMed Central](#)

Selkoe DJ (2012) Preventing Alzheimer's disease. *Science* 337, 1488-92.

Miklossy J, Donta SE, Mueller K, Nolte O, Perry G (2012) Editorial: Chronic or Late **Lyme Neuroborreliosis**: Present and Future. *The Open Neurology Journal*, 6, (Suppl 1-M1) 78
<http://benthamscience.com/open/toneuj/articles/V006/SI0078TONEUJ/78TONEUJ.pdf>

[Miklossy J.](#) (2012) Chronic or late lyme **neuroborreliosis**: analysis of evidence compared to chronic or late **neurosyphilis**. Open Neurol J. 6, 146-57 <http://www.ncbi.nlm.nih.gov/pubmed/23346260>

De Chiara G, Marcocci ME, Sgarbanti Ret al. (2012) Infectious agents and neurodegeneration. Mol Neurobiol 46, 614–638.

Hyman BT, Phelps CH, Beach TG et al. (2012) National Institute on Aging-Alzheimer's Association guidelines for the neuropathologic assessment of Alzheimer's disease. Alzheimers Dement 8, 1–13 [CrossRef](#) [MEDLINE](#) [PubMed Central](#)

Wyss-Coray T, Rogers J (2012) Inflammation in Alzheimer disease –a brief review of the basic science and clinical literature. Cold Spring Harb Perspect Med 2, a006346.

Crutch SJ, Lehmann M, Schott JM, Rabinovici GD, Rossor MN, Fox NC (2012) Posterior cortical atrophy. Lancet Neurol 11, 170–8 [CrossRef](#)

Bearer EL, Woltjer R, Donahue JE, Kilpatrick K (2013) **Herpes encephalitis** and Abeta plaques. FASEB J 27, 873.16.

Mori K et al. (2013) The C9orf72 GGGGCC Repeat Is Translated into Aggregating Dipeptide-Repeat Proteins in **FTLD/ALS**. Science, doi:10.1126/science.1232927. [FTLD = frontotemporale Lobärdegeneration, ALS = Amyotrophe Lateralsklerose] <http://www.sciencemag.org/content/early/2013/02/07/science.1232927>

Nilsson P et al. (2013) Aβ secretion and plaque formation depend on **autophagy**. Cell Reports 5(1), 61-69 <http://www.cell.com/cell-reports/abstract/S2211-1247%2813%2900502-0>

[Williams WM](#), [Torres S](#), [Siedlak SL](#), [Castellani RJ](#), [Perry G](#), [Smith MA](#), [Zhu X](#). (2013) **Antimicrobial peptide beta-defensin-1 expression is upregulated in Alzheimer's brain.** J Neuroinflammation. 10(1), 127. <http://www.ncbi.nlm.nih.gov/pubmed/24139179>
“**The human beta-defensins (hBDs) are a highly conserved family of cationic antimicrobial and immunomodulatory peptides expressed primarily by epithelial cells in response to invasion by bacteria, fungi and some viruses. ... Our findings suggest interplay between hBD-1 and neuroimmunological responses in AD, marked by microglial and astrocytic activation, and increased expression of the peptide within the choroid plexus and accumulation within GVD. As a constitutively expressed component of the innate immune system, we propose that hBD-1 may be of considerable importance early in the disease process.**”

Carter CJ (2013) Susceptibility genes are enriched in those of the **herpes simplex virus 1**/host interactome in psychiatric and neurological disorders. Pathog Dis 69, 240–261.

Ball MJ, Lukiw WJ, Kammerman EM, Hill JM (2013) Intracerebral propagation of Alzheimer's disease: Strengthening evidence of a **herpes simplex virus** etiology. Alzheimers Dement 9, 169–175.

Miclossy J. (2013) **Lyme Neuroborreliosis**, Lyme Dementia and Alzheimer's Disease <http://www.youtube.com/watch?v=RftuNfcFxB4&list=PLbSMktQUOGfVVSaMBLyTNPW59MrR2EKvg>

Usman A Khan, Li Liu, Frank A Provenzano, Diego E Berman, Caterina P Profaci, Richard Sloan, Richard Mayeux, Karen E Duff, Scott A Small. (2013) Molecular drivers and cortical spread of **lateral entorhinal cortex dysfunction in preclinical Alzheimer's disease**. Nature Neuroscience, DOI: [10.1038/nn.3606](https://doi.org/10.1038/nn.3606)

O'Day D (2013) **The Alzheimer's Epidemic**. <http://www.amazon.com/The-Alzheimers-Epidemic-Danton-ODay/dp/1456616412/>

Blanc M, Hsieh WY, Robertson KA et al. (2013) The transcription factor STAT-1 couples macrophage synthesis of 25-hydroxycholesterol to the interferon antiviral response. *Immunity* 38, 106–118.

Vellas B, Carrillo MC, Sampaio C, et al. (2013) Designing drug trials for Alzheimer's disease: what we have learned from the release of the phase III antibody trials: a report from the EU/US/CTAD Task Force. *Alzheimers Dement* 9, 438–44 [CrossRef](#) [MEDLINE](#)

[Pisa D](#), [Alonso R](#), [Juarranz A](#), [Rábano A](#), [Carrasco L](#) (2013) **Direct Visualization of Fungal Infection in Brains from Patients with Alzheimer's Disease.** *J Alzheimers Dis.* [Epub ahead of print] <http://www.ncbi.nlm.nih.gov/pubmed/25125470>
„Our findings provide an explanation for the hitherto elusive detection of fungi in AD brains, and are consistent with the idea that fungal cells are internalized inside neurons.“

Liu SY, Aliyari R, Chikere K et al. (2013) Interferon-inducible cholesterol-25-hydroxylase broadly inhibits viral entry by production of 25-hydroxycholesterol. *Immunity* 38, 92–105.

Williams WM, Torres S, Siedlak SL et al. (2013) Antimicrobial peptide beta-defensin-1 expression is upregulated in Alzheimer's brain. *J Neuroinflammation* 10, 127.

Knopman DS, Jack CR Jr, Wiste HJ, et al. (2013) Brain injury biomarkers are not dependent on (β)-amyloid in normal elderly. *Ann Neurol* 73, 472–80 [CrossRef](#) [MEDLINE](#) [PubMed Central](#)

Poole S, Singhrao SK, Kesavalu L, Curtis MA, Crean S (2013) [Determining the presence of periodontopathic virulence factors in short-term postmortem Alzheimer's disease brain tissue.](#) *J Alzheimers Dis* 36, 665-677

Crary JF, Trojanowski JQ, Schneider JA, et al. (2014) Primary age-related tauopathy (PART): a common pathology associated with human aging. *Acta Neuropathol* 128, 755–66 [CrossRef](#) [MEDLINE](#) [PubMed Central](#)

Brenowitz WD, Monsell SE, Schmitt FA, Kukull WA, Nelson PT (2014) Hippocampal sclerosis of aging is a key Alzheimer's disease mimic: clinical-pathologic correlations and comparisons with both Alzheimer's disease and non-tauopathic frontotemporal lobar degeneration. *J Alzheimers Dis* 39, 691–702 [MEDLINE](#) [PubMed Central](#)

Salloway S, Sperling R, Fox NC, et al. (2014) Two phase 3 trials of bapineuzumab in mild-to-moderate Alzheimer's disease. *N Engl J Med* 370, 322–33 [CrossRef](#) [MEDLINE](#) [PubMed Central](#)

Lathe R, Saponova S, Kotelevtsev Y (2014) **Atherosclerosis and Alzheimer – diseases with a common cause?** *Inflammation, oxysterols, vasculature.* *BMC Geriatrics* 14, 36.

[Alonso R](#), [Pisa D](#), [Rábano A](#), [Carrasco L](#) (2014) **Alzheimer's disease and disseminated mycoses.** *European Journal of Clinical Microbiology & Infectious Diseases* <http://link.springer.com/article/10.1007/s10096-013-2045-z>

Yu JT, Tan L, Hardy J (2014) **Apolipoprotein E** in Alzheimer's disease: An update. *Annu Rev Neurosci* 37, 79–100.

Cummings JL, Morstorf T, Zhong K (2014) Alzheimer's disease drug-development pipeline: Few candidates, frequent failures. *Alzheimers Res Ther* 6, 37.

Roos KL (2014) Encephalitis. *Handb Clin Neurol* 121, 1377–1381.

Bastian FO (2014) Cross-Roads in Research on Neurodegenerative Diseases. J Alzheimer Dis Parkinsonism 4, 141 http://scholar.google.de/scholar?q=Cross-Roads+in+Research+on+Neurodegenerative+Diseases&hl=de&as_sdt=0&as_vis=1&oi=scholart&sa=X&ei=1yk1U7frCYbesgaXy4HYCW&ved=0CDkQgQMwAA

[Bu XL](#), [Yao XQ](#), [Jiao SS](#), [Zeng F](#), [Liu YH](#), [Xiang Y](#), [Liang CR](#), [Wang QH](#), [Wang X](#), [Cao HY](#), [Yi X](#), [Deng B](#), [Liu CH](#), [Xu J](#), [Zhang LL](#), [Gao CY](#), [Xu ZQ](#), [Zhang M](#), [Wang L](#), [Tan XL](#), [Xu X](#), [Zhou HD](#), [Wang YJ](#). (2014) **A study on the association between infectious burden and Alzheimer's disease.** *Eur J Neurol*. doi: 10.1111/ene.12477. [Epub ahead of print] <http://www.ncbi.nlm.nih.gov/pubmed/24910016>

„CONCLUSIONS: IB consisting of CMV, HSV-1, B. burgdorferi, C. pneumoniae and H. pylori is associated with AD. This study supports the role of infection/inflammation in the etiopathogenesis of AD.“

[Hill JM](#), [Clement C](#), [Pogue AI](#), et al. (2014) **Pathogenic microbes, the microbiome, and Alzheimer's disease (AD).** *Front. Aging Neurosci.*, doi: 10.3389/fnagi.2014.00127 http://journal.frontiersin.org/Journal/10.3389/fnagi.2014.00127/full?utm_source=newsletter&utm_medium=email&utm_campaign=Neuroscience-w27-2014

[Blanc F](#), [Philippi N](#), [Cretin B](#), [Kleitz C](#), [Berly L](#), [Jung B](#), [Kremer S](#), [Namer IJ](#), [Sellal F](#), [Jaulhac B](#), [de Seze J](#). (2014) **Lyme Neuroborreliosis and Dementia.** *J Alzheimers Dis*. Neuroborreliosis: analysis of evidence compared to chronic or late neurosyphilis. *Open Neurol J*. 6, 146-57

[Smith DB](#), [Simmonds P](#), [Bell JE](#) (2014) Brain viral burden, neuroinflammation and neurodegeneration in HAART-treated **HIV positive injecting drug users.** *J Neurovirol* 20, 28–38.

[O'Daya DH](#), [Catalanoc A](#) (2014) **A Lack of Correlation between the Incidence of Lyme Disease and Deaths due to Alzheimer's Disease.** *Journal of Alzheimer's Disease* xx (20xx) x–xx DOI 10.3233/JAD-140552 IOS Press. <http://www.ncbi.nlm.nih.gov/pubmed/24840565> „Here we show there is no statistically significant correlation between the incidence of LD and deaths due to AD in the US. Furthermore, the 13 states with the highest deaths due to AD were statistically different ($p < 0.0001$) from those with high LD incidence.“

[Miklossy Y](#) (2014) Letter to the editor. **The lack of correlation between the incidence of Lyme disease and deaths due to Alzheimer's disease cannot reflect the lack of involvement of Borrelia burgdorferi in Alzheimer's dementia.** <http://j-alz.com/node/384>

[Lövhelm H](#), [Gilthorpe J](#), [Adolfsson R](#), [Nilsson LG](#), [Elgh F](#) (2014) **Reactivated herpes simplex infection increases the risk of Alzheimer's disease.** *Alzheimers Dement*. pii: S1552-5260(14)02421-2. doi: 10.1016/j.jalz.2014.04.522. [Epub ahead of print] <http://www.ncbi.nlm.nih.gov/pubmed/?term=25043910> „Positivity for anti-HSV IgM, a sign of reactivated infection, was found to almost double the risk for AD, whereas the presence of anti-HSV IgG antibodies did not affect the risk.“

[Little CS](#), [Joyce TA](#), [Hammond CJ](#) et al. (2014) **Detection of bacterial antigens and Alzheimer's disease-like pathology in the central nervous system of BALB/c mice following intranasal infection with a laboratory isolate of Chlamydia pneumoniae.** *Front Aging Neurosci* 5(6), 304 <http://journal.frontiersin.org/Journal/10.3389/fnagi.2014.00304/abstract> <http://www.ncbi.nlm.nih.gov/pubmed/?term=25538615>

[Mancuso R](#), [Baglio F](#), [Cabinio M](#), [Calabrese E](#), [Hernis A](#), [Nemni R](#), [Clerici M](#). (2014) **Titers of herpes simplex virus type 1 antibodies positively correlate with grey matter volumes in Alzheimer's disease.** *J Alzheimers Dis*. 38(4), 741-5. doi: 10.3233/JAD-130977. <http://www.ncbi.nlm.nih.gov/pubmed/24072067>

[De Jager PD](#), [Srivastava G](#), [Lunnon](#) et al. (2014) **Alzheimer's disease: early alterations in brain DNA methylation at ANK1, BIN1, RHBDF2 and other loci**. *Nature Neuroscience*. doi:10.1038/nn.3786 <http://www.nature.com/neuro/journal/vaop/ncurrent/full/nn.3786.html>

Hall H, Reyes S, Landeck N, et al. (2014) Hippocampal Lewy pathology and cholinergic dysfunction are associated with dementia in Parkinson's disease. *Brain* 137, 2493–508
[CrossRef](#) [MEDLINE](#)

[Maheshwari P](#), [Eslick GD](#). (2014) **Bacterial Infection and Alzheimer's Disease: A Meta-Analysis**. *J Alzheimers Dis*. <http://www.ncbi.nlm.nih.gov/pubmed/25182736>
«We found over a ten-fold increased occurrence of AD when there is detectable evidence of spirochetal infection (OR: 10.61; 95% CI: 3.38-33.29) and over a four-fold increased occurrence of AD in a conservative risk estimate (OR 4.45; 95% CI: 2.33-8.52). We found over a five-fold increased occurrence of AD with Cpn infection (OR 5.66; 95% CI: 1.83-17.51). This study shows a strongly positive association between bacterial infection and AD».

[Bourgade K](#), [Garneau H](#), [Giroux G](#), et al. (2014) **β -Amyloid peptides display protective activity** against the human Alzheimer's disease-associated herpes simplex virus-1. *Biogerontology* <http://link.springer.com/article/10.1007%2Fs10522-014-9538-8#page-1>

[Blanc F](#), [Philippi N](#), [Cretin B](#) et al. (2014) **Lyme neuroborreliosis and dementia**. *J Alzheimers Dis*. 41(4), 1087-93. doi: 10.3233/JAD-130446. <http://www.ncbi.nlm.nih.gov/pubmed/24762944>
«Pure Lyme dementia exists and has a good outcome after antibiotics. It is advisable to do Lyme serology in demented patients, and if serology is positive, to do CSF analysis with AI. Neurodegenerative dementia associated with positive AI also exists, which may have been revealed by the involvement of *Borrelia* in the CNS. «

Peters O (2014) **Neues zu Alzheimer**: Von Impfung bis Kombi-Therapie. Charité, Berlin. http://www.medscapemedizin.de/artikel/4902660?src=wnl_medpl_03002014

[Amos LA](#). (2014) **Why do brains need tau (MAPT) ?** *FEBS J*. doi: 10.1111/febs.13094. [Epub ahead of print] <http://www.ncbi.nlm.nih.gov/pubmed/25291013>

Zhang Z et al. (2014) **Cleavage of tau by asparagine endopeptidase mediates the neurofibrillary pathology in Alzheimer's disease**. *Nature Medicine*, 20, 254-62, 2014. <http://www.ncbi.nlm.nih.gov/pubmed/25326800>

(2014) **Alzheimer's Association Alzheimer's Disease Facts and Figures**. http://www.alz.org/alzheimers_disease_facts_and_figures.asp

Itzhaki RF (2014) **Herpes simplex virus type 1** and Alzheimer's disease: Increasing evidence for a major role of the virus. *Front Aging Neurosci* 6,202.

Alonso R, Pisa D, Marina AI et al. (2014) **Fungal infection** in patients with Alzheimer's disease. *J Alzheimers Dis* 41, 301–311.

Balin BJ Hudson AP (2014) Etiology and pathogenesis of late-onset Alzheimer's disease. *Curr Allergy Asthma Rep* 14, 417.

Martin C, Aguila B, Araya P et al. (2014) Inflammatory and neurodegeneration markers during asymptomatic **HSV-1** reactivation. *J Alzheimers Dis* 39, 849–859.

White MR, Kandel R, Tripathi S, Condon D, Qi L, Taubenberger J, Hartshorn KL (2014) Alzheimer's associated beta-amyloid protein inhibits influenza A virus and modulates viral interactions with phagocytes. *PLoS One* 9, e101364.

Mesulam MM, Rogalski EJ, Wieneke C, et al. (2014) Primary progressive aphasia and the evolving neurology of the language network. *Nat Rev Neurol* 10, 554–69 [CrossRef](#) [MEDLINE](#) [PubMed Central](#)

Jessen F, Amariglio RE, van Boxtel M, et al. (2014) A conceptual framework for research on subjective cognitive decline in preclinical Alzheimer's disease. *Alzheimers Dement* 10, 844–52 [CrossRef](#) [MEDLINE](#) [PubMed Central](#)

Jack CR Jr, Wiste HJ, Weigand SD, et al. (2014) Age-specific population frequencies of cerebral (ϵ)-amyloidosis and neurodegeneration among people with normal cognitive function aged 50–89 years: a cross-sectional study. *Lancet Neurol* 13, 997–1005 [CrossRef](#)

Mormino EC, Betensky RA, Hedden T, et al. (2014) Amyloid and APOE (epsilon)4 interact to influence short-term decline in preclinical Alzheimer disease. *Neurology* 82, 1760–7 [CrossRef](#) [MEDLINE](#) [PubMed Central](#)

Morales I et al. (2014) **Neuroinflammation in the pathogenesis of Alzheimer's disease: A rational framework for the search of novel therapeutic approaches.** *Front Cell Neurosci.* 22, 8-112.

Kountouras J, Gavalas E, Polyzos SA, Deretzi G, Kouklakis G, Grigoriadis S, Grigoriadis N, Boziki M, Zavos C, Tzilves D, Katsinelos P (2014) **Association between Helicobacter pylori burden and Alzheimer's disease.** *Eur J Neurol* 21, e100.

Teller S, Tahirbegi IB, Mir M et al. (2015) **Magnetite-Amyloid- β deteriorates activity and functional organization in an in vitro model for Alzheimer's disease.** *Scientific Reports* 2015, 5, 17261
<https://www.readbyqxmd.com/read/26608215/magnetite-amyloid-%C3%AE-deteriorates-activity-and-functional-organization-in-an-in-vitro-model-for-alzheimer-s-disease>

[Chau-Ren Jung, Yu-Ting Lin, Bing-Fang Hwang](#) (2015) **Ozone, Particulate Matter, and Newly Diagnosed Alzheimer's Disease: A Population-Based Cohort Study in Taiwan.** *J Alzheimer Dis.* 44(2), 573-84 <http://www.pubfacts.com/detail/25310992/Ozone-particulate-matter-and-newly-diagnosed-Alzheimers-disease-a-population-based-cohort-study-in-T>

Vos SJ, Verhey F, Frölich L, et al. (2015) **Prevalence and prognosis of Alzheimer's disease at the mild cognitive impairment stage.** *Brain* 138, 1327–38 [CrossRef](#) [MEDLINE](#)

Pisa D, Alonso R, Juarranz A, Rábano A, Carrasco L (2015) [Direct visualization of fungal infection in brains from patients with Alzheimer's disease.](#) *J Alzheimers Dis* 43, 613-624.

Bourgade K, Garneau H, Giroux G et al. (2015) **Beta-amyloid peptides display protective activity against the human Alzheimer's disease-associated herpes simplex virus-1.** *Biogerontology* 16, 85–98.

Jansen WJ, Ossenkuppele R, Knol DL, et al. (2015) **Prevalence of cerebral amyloid pathology in persons without dementia: a meta-analysis.** *JAMA* (19), 1924–38 [CrossRef](#) [MEDLINE](#) [PubMed Central](#)

Teipel S, Drzezga A, Grothe MJ, et al. (2015) Multimodal imaging in Alzheimer's disease: validity and usefulness for early detection. *Lancet Neurol.* 14, 1037–53 [CrossRef](#)
[http://www.thelancet.com/journals/laneur/article/PIIS1474-4422\(15\)00093-9/abstract](http://www.thelancet.com/journals/laneur/article/PIIS1474-4422(15)00093-9/abstract)

Ossenkoppele R, Pijnenburg YA, Perry DC, et al. (2015) The behavioural/dysexecutive variant of Alzheimer's disease: clinical, neuroimaging and pathological features. *Brain pii: awv191*. [Epub ahead of print] [CrossRef](#) [MEDLINE](#)

Civitelli L, Marcocci ME, Celestino I et al. (2015) **Herpes simplex virus type 1** infection in neurons leads to production and nuclear localization of APP intracellular domain (AICD): Implications for Alzheimer's disease pathogenesis. *J Neurovirol* 21, 480–490.

Gillet L, Frederico B, Stevenson PG (2015) Host entry by **gamma-herpesviruses** – lessons from animal viruses? *Curr Opin Virol* 15, 34–40.

Piacentini R, Li Puma DD, Ripoli C et al. (2015) **Herpes simplex virus type-1** infection induces synaptic dysfunction in cultured cortical neurons via GSK-3 activation and intraneuronal amyloid-beta protein accumulation. *Sci Rep* 5, 15444.

[Lövhelm H](#), [Gilthorpe J](#), [Johansson A](#), [Eriksson S](#), [Hallmans G](#), [Elgh F](#) (2015) **Herpes simplex infection and the risk of Alzheimer's disease: A nested case-control study.** *Alzheimers Dement.* 11(6), 587-92. doi: 10.1016/j.jalz.2014.07.157. Epub 2014 Oct 7. <https://www.ncbi.nlm.nih.gov/pubmed/25304990>

[Lövhelm H](#), [Gilthorpe J](#), [Adolfsson R](#), [Nilsson LG](#), [Elgh F](#) (2015) **Reactivated herpes simplex infection increases the risk of Alzheimer's disease.** *Alzheimers Dement.* 11(6), 593-9. doi: 10.1016/j.jalz.2014.04.522. Epub 2014 Jul 17. <https://www.ncbi.nlm.nih.gov/pubmed/25043910>

AlzForum (2015) **Dementia à la Mold? Fungi May Lurk in Alzheimer's Brains** <https://groups.google.com/forum/m/#!topic/alt.health/Ddh23yeO4E4>

Pisa D, Alonso R, Rabano A, Rodal I, Carrasco L (2015) **Different brain regions are infected with fungi** in Alzheimer's disease. *Sci Rep* 5, 15015.

Potgieter M, Bester J, Kell DB, Pretorius E (2015) **The dormant blood microbiome in chronic, inflammatory diseases.** *FEMS Microbiol Rev* 39, 567–591.

Maheshwari P, Estlick GD (2015) **Bacterial infection and Alzheimer's disease: a meta-analysis.** *J Alzheimer Dis* 43(3) 957-66 <http://www.ncbi.nlm.nih.gov/pubmed/?term=25182736>
« **We found over a five-fold increased occurrence of AD with Cpn infection (OR: 5.66; 95% CI: 1.83-17.51). This study shows a strongly positive association between bacterial infection and AD.** »

Miklossy J (2015) **Historic evidence to support a causal relationship between spirochetal infections and Alzheimer's disease.** *Frontiers in Aging Neuroscience.* 7(46), 1-12. 1- doi: 10.3389/fnagi.2015.00046
<http://journal.frontiersin.org/article/10.3389/fnagi.2015.00046/full>
<http://journal.frontiersin.org/article/10.3389/fnagi.2015.00046/abstract>

[Viticchi G](#), [Falsetti L](#), [Buratti L](#) et al. (2015) **Framingham risk score can predict cognitive decline progression in Alzheimer's disease.** *Neurobiol Aging.* 36(11), 2940-5. doi:10.1016/j.neurobiolaging.2015.07.023. <http://www.ncbi.nlm.nih.gov/pubmed/26279114>

Allen HB, Hannaway M, Joshi S (2015) **Tertiary Treponematosis.** *J Clin Exp Dermatol Res* 6: 288. doi:10.4172/2155-9554.10000288

Velayudhan L, Gasper A, Pritchard M, Baillon S, Messer C, Proitsi P (2015) Pattern of smell identification impairment in Alzheimer's disease. *J Alzheimers Dis* 46, 381–387.

[Harris SA](#), [Harris EA](#) (2015) **Herpes Simplex Virus Type 1 and Other Pathogens are Key Causative Factors in Sporadic Alzheimer's Disease.** [Journal of Alzheimer's Disease](#), vol. Preprint, no. Preprint, 1-35.
<http://content.iospress.com/articles/journal-of-alzheimers-disease/jad142853>

Jaunmuktane Z et al. (2015) **Evidence for human transmission of amyloid- β pathology and cerebral amyloid angiopathy.** *Nature*, doi:10.1038/nature15369.
<http://www.nature.com/nature/journal/v525/n7568/full/nature15369.html>

Olsen I, Singhrao SK (2015) **Can oral infection be a risk factor for Alzheimer's disease?** *Journal of Oral Microbiology* 7, 29143 - <http://dx.doi.org/10.3402/jom.v7.29143>
<http://www.journaloforalmicrobiology.net/index.php/jom/article/view/29143>

Bastian FO (2015) Is Alzheimer's Disease Infectious? Relative to the CJD Bacterial Infection Model of Neurodegeneration. *AIMS Neuroscience*, Volume 2 (4): 240–258. DOI: 10.3934/Neuroscience.2015.4.240
<http://www.aimspress.com/fileOther/PDF/neuroscience/201504240.pdf>

[Späni C](#), [Suter T](#), [Derungs R](#) et al. (2015) **Reduced β -amyloid pathology in an APP transgenic mouse model of Alzheimer's disease lacking functional B and T cells.** [Acta Neuropathol Commun](#). 3, 71. Published online 2015 Nov 11. doi: [10.1186/s40478-015-0251-x](https://doi.org/10.1186/s40478-015-0251-x) PMID: PMC4642668 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4642668/>
"The results of this study demonstrate an impact of the adaptive immunity on cerebral β -amyloid pathology in vivo and suggest an influence on microglia-mediated amyloid β -peptide clearance as a possible underlying mechanism".

Garrett MD (2015) **Politics of Anguish: How Alzheimer's disease became the malady of the 21st century.** Createspace. USA.

[Miklossy J](#), [McGeer PL](#) (2016) **Common mechanisms involved in Alzheimer's disease and type 2 diabetes: a key role of chronic bacterial infection and inflammation.** [Aging \(Albany NY\)](#). 8(4), 575-88. doi: 10.18632/aging.100921.
<https://www.ncbi.nlm.nih.gov/pubmed/26961231>

„This article reviews the evidence for the presence of local inflammation and bacteria in type 2 diabetes and discusses host pathogen interactions in chronic inflammatory disorders. Chlamydomyxa pneumoniae, Helicobacter pylori and spirochetes are demonstrated in association with dementia and brain lesions in AD and islet lesions in type 2 diabetes.“

[Zhan X](#), [Stamova B](#), [Jin LW](#) et al. (2016) **Gram-negative bacterial molecules associate with Alzheimer disease pathology.** [Neurology](#). pii: 10.1212/WNL.0000000000003391. [Epub ahead of print] <https://www.ncbi.nlm.nih.gov/pubmed/?term=27784770>
„E coli K99 and LPS levels were greater in AD compared to control brains. LPS colocalized with A β _{1-40/42} in amyloid plaques and around vessels in AD brain. The data show that Gram-negative bacterial molecules are associated with AD neuropathology. They are consistent with our LPS-ischemia-hypoxia rat model that produces myelin aggregates that colocalize with A β and resemble amyloid-like plaques“.

Maher B et al. (2016) **Magnetite pollution nanoparticles in the human brain.** *PNAS*, doi:10.1073/pnas.1605941113 <http://www.pnas.org/content/early/2016/08/31/1605941113>

Editorial (2016) **Microbes and Alzheimer's Disease.** [Journal of Alzheimer's Disease](#), vol. 51, no. 4, pp. 979-984, 2016 DOI: 10.3233/JAD-160152
<http://content.iospress.com/articles/journal-of-alzheimers-disease/jad160152>

Allen HB, Morales D, Jones K, Joshi S (2016) **Alzheimer's Disease: A Novel Hypothesis Integrating Spirochetes, Biofilm, and the Immune System.** *J Neuroinfect Dis* 7, 200. doi:10.4172/2314-7326.1000200

[Batarseh YS](#), [Duong QV](#), [Mousa YM](#) et al. (2016) **Amyloid- β and Astrocytes Interplay in Amyloid- β Related Disorders.** *Int J Mol Sci.* 17(3), 338. doi: 10.3390/ijms17030338. <http://www.ncbi.nlm.nih.gov/pubmed/26959008>

Levin J, Kurz A, Arzberger T et al. (2016) **Differenzialdiagnose und Therapie der atypischen Parkinson-Syndrome.** *Deutsches Ärzteblatt* 113(5), 61-69 <http://www.aerzteblatt.de/pdf/113/5/m61.pdf?ts=28.01.2016+17%3A09%3A38>

Bourgade K, Le PA, Bocti C, Witkowski JM, Dupuis G, Frost EH, Fulop T Jr (2016) **Protective effect of amyloid-beta peptides against herpes simplex virus-1 infection in a neuronal cell culture model.** *J Alzheimers Dis*, doi: 10.3233/JAD-150652.

[Ide M](#), [Harris M](#), [Stevens A](#) et al. (2016) **Periodontitis and Cognitive Decline in Alzheimer's Disease.** *PLoS One.* 11(3), e0151081. doi: 10.1371/journal.pone.0151081. eCollection 2016. <http://www.ncbi.nlm.nih.gov/pubmed/26963387> <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0151081>

«Our data showed that periodontitis is associated with an increase in cognitive decline in Alzheimer's Disease, independent to baseline cognitive state, which may be mediated through effects on systemic inflammation. »

Weuve J, McQueen MB, Blacker D. (2016) **The AlzRisk Database.** *Alzheimer Research Forum.* Available at: <http://www.alzforum.org>. Accessed [date of access]*. <http://www.alzrisk.org/>

(2016) **Myths and realities about Alzheimer's disease.** *Alzheimer Society British Columbia* http://www.alzheimer.ca/en/bc/About-dementia/Alzheimer-s-disease/Myth-and-reality-about-Alzheimer-s-disease#DynamicId_6 http://www.alzheimermb.ca/site/alzheimer_disease_myths

Tabet N (2016) **The realities of treating Alzheimer's disease. Current challenges, future promise!** <http://www.kssahsn.net/what-we-do/our-news/events/Documents/The%20realities%20of%20treating%20alzheimers%20disease%20N%20Tabet.pdf>

[Miklossy J](#) (2016) **Bacterial Amyloid and DNA are Important Constituents of Senile Plaques: Further Evidence of the Spirochetal and Biofilm Nature of Senile Plaques.** *J Alzheimers Dis.* [Epub ahead of print] <http://www.ncbi.nlm.nih.gov/pubmed/27314530> <http://content.iospress.com/articles/journal-of-alzheimers-disease/jad160451>

[Hakobyan S](#), [Harding K](#), [Aiyaz M](#) et al. (2016) **Complement Biomarkers as Predictors of Disease Progression in Alzheimer's Disease.** *J Alzheimers Dis.* [Epub ahead of print] <http://www.ncbi.nlm.nih.gov/pubmed/27567854>

« Three analytes (clusterin, factor I, terminal complement complex) were significantly different between MCI individuals who had converted to dementia one year later compared to non-converters; a model combining these three analytes with informative co-variables was highly predictive of conversion. The data confirm the relevance of complement biomarkers in MCI and AD and build the case for using multi-parameter models for disease prediction and stratification. »

[Spitzer P](#), [Condic M](#), [Herrmann](#) et al. (2016) **Amyloidogenic amyloid- β -peptide variants induce microbial agglutination and exert antimicrobial activity.** *Sci Rep.* 6, 32228. doi: 10.1038/srep32228. <http://www.nature.com/articles/srep32228> <http://www.ncbi.nlm.nih.gov/pubmed/27624303>

« These data demonstrate that the amyloidogenic A β _{x-42} variants have antimicrobial activity and may therefore act as antimicrobial peptides in the immune system. »

[Portelius E](#), [Durieu E](#), [Bodin M](#) et al. (2016) **Specific Triazine Herbicides Induce Amyloid- β 42 Production.** *J Alzheimers Dis.* <http://www.ncbi.nlm.nih.gov/pubmed/27589520>

„In conclusion, several widely used triazines enhance the production of toxic, aggregation prone A β ₄₂/A β ₄₃ amyloids, suggesting the possible existence of environmental "Alzheimerogens" which may contribute to the initiation and propagation of the amyloidogenic process in late-onset AD.“

Killin LOJ, Starr JM, Shiue IJ, Russ TC (2016) **Environmental risk factors for dementia: a systematic review** BMC Geriatrics BMC series – open, inclusive and trusted 201616, 175 DOI: 10.1186/s12877-016-0342-y

<http://bmcgeriatr.biomedcentral.com/articles/10.1186/s12877-016-0342-y>

“There is at least moderate evidence implicating the following risk factors: air pollution; aluminium; silicon; selenium; pesticides; vitamin D deficiency; and electric and magnetic fields.”

Kennedy M et al. (2016) **The BACE1 inhibitor verubecestat (MK-8931) reduces CNS β -amyloid in animal models and in Alzheimer’s disease patients.** Science Translational Medicine. doi: 10.1126/scitranslmed.aad9704.

<http://stm.sciencemag.org/content/8/363/363ra150>

[MacDonald A](#), Grier TM, Pierce PK (2016) **Diffuse cortical Lewy body dementia – two cases – linked by FISH studies of DNA hybridization and immunohistochemistry to tertiary Borrelia burgdorferi brain infection.** <https://f1000research.com/%20posters/5-127>

Livingston G et al. (2017) **Dementia prevention, intervention, and care.** Lancet. doi: [10.1016/S0140-6736\(17\)31363-6](https://doi.org/10.1016/S0140-6736(17)31363-6).

[Mirza A](#), [King A](#), [Troakes C](#), [Exley C](#) (2017) **Aluminium in brain tissue in familial Alzheimer’s disease.** Journal of Trace Elements in Medicine and Biology 40, 30–36
« The unique quantitative data and the stunning images of aluminium in familial Alzheimer’s disease brain tissue raise the spectre of aluminium’s role in this devastating disease. »

Miklossy J (2017) **Handbook of Infection and Alzheimer’s Disease** ISBN print 978-1-61499-705-4 ISBN online 978-1-61499-706-1

<http://www.iospress.nl/book/handbook-of-infection-and-alzheimers-disease/>

Onyango IG et al. (2017) **Mitochondria in the pathophysiology of Alzheimer’s and Parkinson’s diseases.** Front Biosci (Landmark Ed). 22, 854-872.

[Bastian FO](#) (2017) **Combined Creutzfeldt-Jakob/ Alzheimer's Disease Cases are Important in Search for Microbes in Alzheimer's Disease.** J Alzheimers Dis. 56(3), 867-873. doi: 10.3233/JAD-160999. <https://www.ncbi.nlm.nih.gov/pubmed/28059790>

[Alonso R](#), [Pisa D](#), [Aguado B](#), [Carrasco L](#) (2017) **Identification of Fungal Species in Brain Tissue from Alzheimer's Disease by Next-Generation Sequencing.** J Alzheimers Dis. doi: 10.3233/JAD-170058. [Epub ahead of print] <https://www.ncbi.nlm.nih.gov/pubmed/28387676>

„Five genera were common to all nine patients: Alternaria, Botrytis, Candida, Cladosporium, and Malassezia. These observations could be used to guide targeted antifungal therapy for AD patients. Moreover, the differences found between the fungal species in each patient may constitute a basis to understand the evolution and severity of clinical symptoms in AD“.

Maheshwari P, Eslick GD (2017) **Bacterial infection increases the risk of Alzheimer’s disease: An evidence-based assessment.** In Handbook of Infection and Alzheimer’s Disease, Miklossy J, ed. IOS Press, Amsterdam, in press.

Barron AE, Itzhaki R, Miklossy J (2017) **ROLE OF MICROBES IN THE DEVELOPMENT OF ALZHEIMER’S DISEASE: STATE OF THE ART.**

« Chair: AE Barron, R Itzhaki, Discussant:... - Innovation in ..., 2017 - academic.oup.com Abstract Alzheimer disease (AD) is one of the most devastating diseases and aging is one of the most important risk factors. For many years huge efforts have been made to better understand the etiopathogenesis of AD. Also, many treatment trials have been performed. At present, we do not what is the exact cause of AD nor how to treat it but we know that neuroinflammation plays an important role, the latter occurring even some 20 years before ...“ [Zitieren](#) [Speichern](#)

Cascella M, Bimonte S, Muzio MR, Schiavone V, Cuomo A (2017) **The efficacy of Epigallocatechin-3-gallate (green tea) in the treatment of Alzheimer's disease: an overview of pre-clinical studies and translational perspectives in clinical practice.** *Infect Agent Cancer*. 12, 36. doi: 10.1186/s13027-017-0145-6. eCollection 2017.

<https://www.researchgate.net/publication/317698412> The efficacy of Epigallocatechin-3-gallate green tea in the treatment of Alzheimer's disease: An overview of pre-clinical studies and translational perspectives in clinical practice

<https://www.ncbi.nlm.nih.gov/pubmed/28642806>

„The purpose of this review is to summarize the in vitro and in vivo pre-clinical studies on the use of EGCG in the prevention and the treatment of AD as well as to offer new insights for translational perspectives into clinical practice.“

https://www.ncbi.nlm.nih.gov/pubmed/?linkname=pubmed_pubmed&from_uid=28642806

Pisa D, Alonso R, Fernández-Fernández AM et al. (2017) **Polymicrobial Infections In Brain Tissue From Alzheimer's Disease Patients.** *Sci Rep*. 7(1), 5559. doi:

10.1038/s41598-017-05903-y. <https://www.ncbi.nlm.nih.gov/pubmed/28717130>

«Finally, several structures that could belong to fungi or prokaryotes were detected using peptidoglycan and Clostridium antibodies, and PCR analysis revealed the presence of several bacteria in frozen brain tissue from AD patients. Thus, our results show that polymicrobial infections consisting of fungi and bacteria can be revealed in brain tissue from AD patients. «

- ➔ MacDonald AB (2015) **Alzheimer's Due to Borrelia Infection.**
<http://www.gofundme.com/z3v2a2k>
http://www.gofundme.com/z3v2a2k?utm_source=internal&utm_medium=email&utm_content=sharing_image&utm_campaign=invite_n
- ➔ MacDonald A. **Alzheimer Borreliosis** <http://alzheimerborreliosis.net/>
<http://alzheimerborreliosis.net/research/>
- ➔ MacDonald A. (2013) **The Biology of Lyme Disease: An Expert's Perspective**
<http://youtu.be/r8tESJvM88>
<http://www.lyme-disease-research-database.com/alan-macdonald-transcription.html>
- ➔ MacDonald A (2015) **Biofilms Alive in Alzheimer's Disease Plaques**
<https://vimeo.com/140175819>
- ➔ Bransfield RC <http://www.mentalhealthandillness.com/>
- ➔ Miklossy J. **Handbook of Infection and Alzheimer's Disease** (2017)
<http://www.iospress.nl/book/handbook-of-infection-and-alzheimers-disease/>
- ➔ Miller A (2017) <https://www.youtube.com/channel/UCD19kTsVBMH-F0BfV3335Ow>
- ➔ **Immunsuppressive Virusarten** <http://www.erlebnishaft.de/immunsuppressvirus.pdf>
- ➔ **Virus triggers** <http://www.erlebnishaft.de/virus triggers.pdf>
- ➔ **Virus, Bakterium und Immunsystem** <http://www.erlebnishaft.de/virusbaktimmun.pdf>
- ➔ **Biofilm, biofilms** <http://www.erlebnishaft.de/biofilmmed.pdf>
- ➔ **L-Forms, round bodies** <http://www.erlebnishaft.de/stressvar1.pdf>
- ➔ <http://www.erlebnishaft.de/stressvar2.pdf>
- ➔ **Selbstorganisation** http://www.erlebnishaft.de/selbst_muster_nano.pdf
- ➔ **Angiopathie** <http://www.xerlebnishaft.de/angiopathie.pdf>
- ➔ **PH, V-ATPase, Zytoskelett, Neurotoxins** <http://www.kabilahsystems.de/ph.pdf>
- ➔ **Medscape** (2013) **Brain Glucose Hypometabolism, Ketosis, and Alzheimer Disease: From Controversy to Consensus.** http://www.medscape.org/viewarticle/809725?src=wnl_cme_revw
- ➔ **Multiple Sklerose** <http://www.erlebnishaft.de/multipleskleroseborreliose.pdf>
- ➔ **ALS** <http://www.xerlebnishaft.de/als.pdf>
- ➔ **Autismus** http://www.xerlebnishaft.de/autismus_und_lyme.pdf

- ➔ **Schizophrenie** http://www.erlebnishaft.de/psychiatric_patients.pdf
- ➔ **Priones (... ALS?)** <http://www.erlebnishaft.de/prione.pdf>
- ➔ **Immunitaet** http://www.erlebnishaft.de/danger_model.pdf
- ➔ **Methylzyklus** <http://www.erlebnishaft.de/methylierung.pdf>
<http://www.xerlebnishaft.de/bildmethyl-arginin.pdf>
- ➔ **L-Arginin** <http://www.xerlebnishaft.de/bildmethyl-arginin.pdf>
- ➔ **Biogene Amine und Peptide** <http://www.kabilahsystems.de/biogeneamineundpeptide.pdf>
- ➔ **Fettsäuren (Omega 3)** <http://www.kabilahsystems.de/ungesaetfetts.pdf>
- ➔ **Immunsuppression** <http://www.xerlebnishaft.de/immunsuppression.pdf>
- ➔ **Antimikrobiotikose** <http://www.kabilahsystems.de/antibiotherapieplan.pdf>
<http://www.xerlebnishaft.de/antibiotherapie.pdf>
<http://www.xerlebnishaft.de/phytotherapie.pdf>
- Methylenblau, Rember®**
http://scholar.google.de/scholar?q=remember+methylene+blue+alzheimer%27s&hl=de&as_sd t=0&as_vis=1&oi=scholar&sa=X&ei=C1QpU_0fz9eyBoHQgLAE&ved=0CDkQgQMwAA
- ➔ **Zahn- und Mundpflege, dental and oral care**
http://www.xerlebnishaft.de/zahn_mundpflege.pdf

➔ **Lyme und Parkinson**

(2004) New Ideas About the Cause, Spread and Therapy of Lyme Disease
<http://www.samento.com.ec/sciencelib/4lyme/Townsendhowens.html>

(2006) Lyme Disease Misdiagnosed as Alzheimer's, Parkinson and..
<http://www.endowmentmed.org/pdf/updatelyme.pdf>

(2010) Lyme Disease - Misdiagnoses And Medical Dictatorship
<http://rense.com/general43/kly.htm>

(2010) FACHINTERNISTISCHES GUTACHTEN
http://www.praxis-berghoff.de/dokumente/gutachten_anonymisiert.pdf

(2012) M.S., Parkinson's, or Simply Lyme Disease?
<http://issuesoncall.blogspot.de/2007/12/ms-parkinsons-or-simply-lyme-disease.html>

(2013) Lyme Disease Neurological Symptoms
<http://www.lymefight.info/files/LymeNeurologicalSymptoms.pdf>

[Singh NK](#), [Banerjee BD](#), [Bala K](#), [Basu M](#), [Chhillar N](#) (2014) **Gene-Gene and Gene-Environment Interaction on the Risk of Parkinson's Disease.** *Curr Aging Sci.*
<http://www.ncbi.nlm.nih.gov/pubmed/25101650>

[Bu XL](#), [Wang X](#), [Xiang Y](#) et al. (2015) **The association between infectious burden and Parkinson's disease: A case-control study.** *Parkinsonism Relat Disord.* pii: S1353-8020(15)00233-3. doi: 10.1016/j.parkreldis.2015.05.015.
<http://www.ncbi.nlm.nih.gov/pubmed/26037459>

«**IB consisting of CMV, EBV, HSV-1, B. burgdorferi, C. pneumoniae and H. pylori is associated with PD. This study supports the role of infection in the etiology of PD.**»

Doppler K, Jentschke HM et al. (2017) **Dermal phosphor-alpha-synuclein deposits Confirm REM sleep behavior disorder as prodromal Parkinson's disease.** *Acta Neuropathologica.* DOI: 10.1007/s00401-017-1684-z

[Pisché G, Koob M, Wirth T](#) et al. (2017) **Subacute parkinsonism as a complication of Lyme disease.** *J Neurol.* doi: 10.1007/s00415-017-8472-5. [Epub ahead of print] <https://www.ncbi.nlm.nih.gov/pubmed/28349210>

Differential - Diagnosen: Parkinsonismus en.wikipedia.org/wiki/Parkinsonism

- **Virusinfektionen** <http://www.erlebnishaft.de/virustriggers.pdf> <http://www.erlebnishaft.de/virusbaktimmun.pdf> Immunsuppressive Virusarten
- **Chlamydien, Chlamydia** http://www.kabilahsystems.de/chlamydia_pneumoniae.pdf
- **Andere Krankheitserreger** <http://www.xerlebnishaft.de/antibiosetherapie.pdf> <http://www.kabilahsystems.de/antibiosetherapieplan.pdf>
- **Mitochondrien Dysfunktion** <http://www.xerlebnishaft.de/mitochondrien.pdf>
- **Zytoskelett-Krankheiten** <http://www.xerlebnishaft.de/zytoskelett.pdf>
- **Prione** <http://www.erlebnishaft.de/prione.pdf>
- **Bakterielle L-Formen, filtrierbare, filterable Bakterienformen (<250 Nanometer)** <http://www.erlebnishaft.de/stressvar1.pdf> <http://www.erlebnishaft.de/stressvar2.pdf>
- **Biofilm und quorum sensing** <http://www.erlebnishaft.de/biofilmmed.pdf> <http://www.xerlebnishaft.de/quorum.pdf>
- **Horizontaler Gentransfer** <http://www.erlebnishaft.de/gentransfer.pdf>
- **Gen-Dynamik, Gene dynamics** http://www.xerlebnishaft.de/gen_dynamik.pdf
- **Symbiogenese** <http://www.erlebnishaft.de/symbiogenese.pdf>
- **Selbstorganisation** http://www.erlebnishaft.de/selbst_muster_nano.pdf
- **Chronic Inflammatory Disorders. Multisystem diseases caused by pathogens** http://www.kabilahsystems.de/ko-erreg_eupd1.pdf
- **Krebsstammzellen** <http://www.xerlebnishaft.de/krebsstammzelltherapie.pdf>
- **Archaeae** <http://www.erlebnishaft.de/archaeae.pdf>

Vasant MS et al. (2013) **Cellular and molecular mediators of neuroinflammation in the pathogenesis of Parkinson's disease.** Hindawi Pub. Corporation. Mediators of Inflammation.

Kyle B. Fraser, Mark S. Moehle, Roy N. Alcalay, Andrew B. West. (2016) **Urinary LRRK2 phosphorylation predicts parkinsonian phenotypes in G2019SLRRK2 carriers.** *Neurology*, 86 (11), 994 DOI: [10.1212/WNL.0000000000002436](https://doi.org/10.1212/WNL.0000000000002436)

Kyle B. Fraser, Ashlee B. Rawlins, Rachel G. Clark, Roy N. Alcalay, David G. Standaert, Nianjun Liu, Andrew B. West. (2016) **Ser(P)-1292 LRRK2 in urinary exosomes is elevated in idiopathic Parkinson's disease.** *Movement Disorders*, DOI: [10.1002/mds.26686](https://doi.org/10.1002/mds.26686)

Schneider Williams S (2016) **The terrorist inside my husband's brain.** doi: [http://dx.doi.org/10.1212/WNL.0000000000003162](https://doi.org/10.1212/WNL.0000000000003162) *Neurology* 87(13), 1308-1311 <http://www.neurology.org/content/87/13/1308.full>

[Fallahi S, Rostami A, Birjandi M](#) et al. (2017) **Parkinson's disease and Toxoplasma gondii infection: Sero-molecular assess the possible link among patients.** *Acta Trop.* 173, 97-101. doi: 10.1016/j.actatropica.2017.06.002. [Epub ahead of print]
<https://www.ncbi.nlm.nih.gov/pubmed/28602836>

« We concluded that *T. gondii* infection not only could not be a risk factor to PD, but even it could be concluded that patients with PD are in more risk to acquisition of infection. »

Bildgebende Diagnostik, Imaging diagnostics

Prior to any tumor therapy, may be a long term antibiotic treatment should be done. Jeder Tumor-Therapie sollte eventuell doch eine (Langzeit-) Antibiose voraus gehen.
<http://www.xerlebnishaft.de/krebsstammzelltherapie.pdf>

Lamb R, Ozsvari B, Lisanti CL et al. (2015) **Antibiotics that target mitochondria effectively eradicate cancer stem cells, across multiple tumor types: Treating cancer like an infectious disease.** *Oncotarget* 1-16 <http://www.ncbi.nlm.nih.gov/pubmed/25625193>

Fallon BA, Das S, Plutchok JJ, Tager F, Liegner K, Van Heertum R (1997) **Functional Brain Imaging and Neuropsychological Testing in Lyme Disease** *CID* 25, 57-63
http://www.journals.uchicago.edu/CID/journal/issues/v25nS1/jy21_57/jy21_57.web.pdf

Plutchok JJ et al. (1999) **TC-99M HMPAO Brain SPECT Imaging** in Chronic Lyme Disease. *J of Spirochetal and Tick-borne Diseases* 6, 117-122
<http://www.lyme.org/journal/journal/vol6f-w99/v6nfwspect.pdf>

Klunk WE, Engler H, Nordberg A, et al. (2004) Imaging brain amyloid in Alzheimer's disease with Pittsburgh Compound-B. *Ann Neurol* 55, 306–19 CrossRef [MEDLINE](#) [PET]

[Mosconi L.](#) (2005) **Brain glucose metabolism** in the early and specific diagnosis of Alzheimer's disease. FDG-PET studies in MCI and AD. *Eur J Nucl Med Mol Imaging.* 32(4), 486-510. <http://www.ncbi.nlm.nih.gov/pubmed/15747152>

Nishimura T, Hashikawa K, Fukuyama H, Kubota T, Kitamura S, Matsuda H, Hanyu H, Nabatame H, Oku N, Tanabe H, Kuwabara Y, Jinnouchi S, Kubol A (2007) **Decreased cerebral blood flow and prognosis of Alzheimer's disease: a multicenter HMPAO-SPECT study.** *Ann Nucl Med* 21, 15-23

Aalto A, Sjowall J, Davidsson L, Forsberg P, Smedby O. (2007) **Brain magnetic resonance imaging** does not contribute to the diagnosis of chronic neuroborreliosis. *Acta Radiol* 48, 755-762. [white matter hyperintensities or basal ganglia lesions].

Leinonen V, Alafuzoff I, Aalto S, Suotunen T, Savolainen S, Nagren K, Tapiola T, Pirttila T, Rinne J, Jaaskelainen JE, et al. (2008) Assessment of beta-amyloid in a frontal cortical brain biopsy specimen and by **positron emission tomography** with carbon 11-labeled Pittsburgh Compound B. *Arch Neurol* 65, 1304–9.

Forsberg A, Engler H, Almkvist O, Blomquist G, Hagman G, Wall A, Ringheim A, Langstrom B, Nordberg A (2008) **PET** imaging of amyloid deposition in patients with mild cognitive impairment. *Neurobiology of aging* 29, 1456–65.

Sojkova J, Driscoll I, Iacono D, Zhou Y, Codispoti KE, Kraut MA, Ferrucci L, Pletnikova O, Mathis CA, Klunk WE, et al. (2011) In vivo fibrillar beta-amyloid detected using [11C]PiB **positron emission tomography** and neuropathologic assessment in older adults. Arch Neurol 68, 232–40.

Koivunen J, Scheinin N, Virta JR, Aalto S, Vahlberg T, Nagren K, Helin S, Parkkola R, Viitanen M, Rinne JO (2011) Amyloid **PET** imaging in patients with mild cognitive impairment: a 2-year follow-up study. Neurology 76, 1085–90

Clark CM, Schneider JA, Bedell BJ, et al. (2011) Use of **florbetapir-PET** for imaging beta-amyloid pathology. JAMA 305 275–83 [CrossRef](#) [CrossRef](#) [MEDLINE](#)

Donta ST et al. (2012) **SPECT brain imaging in chronic Lyme disease.**

<http://www.ncbi.nlm.nih.gov/pubmed/22889796>

« **CONCLUSIONS: Brain SPECT scans are abnormal in most patients with chronic Lyme disease, and these scans can be used to provide objective evidence in support of the clinical diagnosis. The use of certain antibiotic regimens seems to provide improvement in both clinical status and SPECT scans.** »

Clark CM, Pontecorvo MJ, Beach TG et al. (2012) **Cerebral PET** with florbetapir compared with neuropathology at autopsy for detection of neuritic amyloid-beta plaques: a prospective cohort study. Lancet neurology 11:669–78. Cohort study. Lancet neurology 11, 669–78.

Nordberg A, Carter SF, Rinne J, Drzezga A, Brooks DJ, Vandenberghe R, Perani D, Forsberg A, Langstrom B, Scheinin N, et al. (2013) A European multicentre **PET** study of fibrillar amyloid in Alzheimer's disease. European journal of nuclear medicine and molecular imaging 40, 104–14.

Johnson KA, Minoshima S, Bohnen NI, Donohoe KJ, Foster NL, Herscovitch P, Karlawish JH, Rowe CC, Carrillo MC, Hartley DM, et al. (2013) Appropriate use criteria for amyloid **PET**: a report of the Amyloid Imaging Task Force, the Society of Nuclear Medicine and Molecular Imaging, and the Alzheimer's Association. Journal of nuclear medicine : official publication, Society of Nuclear Medicine 54, 476–90

Drzezga A, Sabri O, Fellgiebel A (2014) **Amyloid-Bildgebung: Reif für die Routine?**

Deutsches Ärzteblatt 11(26), A1206-A1210

<http://www.aerzteblatt.de/archiv/160856/Fruehdiagnose-des-Morbus-Alzheimer-Amyloid-Bildgebung-Reif-fuer-die-Routine>

<http://www.aerzteblatt.de/pdf/111/26/a1206.pdf>

Villemagne VL, Okamura N (2014) In vivo tau imaging: obstacles and progress. Alzheimers Dement 10(3 Suppl): 254–64 [CrossRef](#) [MEDLINE](#) [radiotracer design]

Ossenkoppele R, Jansen WJ, Rabinovici GD, et al. (2015) Prevalence of amyloid **PET** positivity in dementia syndromes: a meta-analysis. JAMA 313, 1939–49 [CrossRef](#) [MEDLINE](#) [PubMed Central](#)

Stefaniak J, O'Brien J (2015) **Imaging of neuroinflammation in dementia: A review.** J Neurol Neurosurg Psychiatry 87, 21–28.

An attempt to a self - healing by auto – antibiotics and chelation Der Versuch einer selbst - Heilung durch Antikörper und Chelate

[Erdile LF](#), [Guy B](#). (1997) **OspA lipoprotein of Borrelia burgdorferi is a mucosal immunogen and adjuvant.** [Vaccine](#). 15(9), 988-96. <http://www.ncbi.nlm.nih.gov/pubmed/9261945>

Ohnishi S1, Koide A, Koide S (2000) **Solution conformation and amyloid-like fibril formation of a polar peptide derived from a beta-hairpin in the OspA single-layer beta-sheet.** J Mol Biol 301, 477–89. <http://www.ncbi.nlm.nih.gov/pubmed/10926522>

Ohnishi S1, Koide A, Koide S (2001) **The roles of turn formation and cross-strand interactions in fibrillization of peptides derived from the OspA single-layer beta-sheet.** Protein Sci 10, 2083–2092. <http://www.ncbi.nlm.nih.gov/pubmed/11567099>

[Soscia SJ](#), [Kirby JE](#), [Washicosky KJ](#) et al. (2010) **The Alzheimer's disease-associated amyloid beta-protein is an antimicrobial peptide.** PLoS One. 5(3), e9505. doi: 10.1371/journal.pone.0009505. <http://www.ncbi.nlm.nih.gov/pubmed/20209079>
„Our findings suggest Abeta is a hitherto unrecognized AMP that may normally function in the innate immune system. This finding stands in stark contrast to current models of Abeta-mediated pathology and has important implications for ongoing and future AD treatment strategies.“

[Williams WM](#), [Torres S](#), [Siedlak SL](#), [Castellani RJ](#), [Perry G](#), [Smith MA](#), [Zhu X](#). (2013) **Antimicrobial peptide beta-defensin-1 expression is upregulated in Alzheimer's brain.** J Neuroinflammation. 10(1), 127. <http://www.ncbi.nlm.nih.gov/pubmed/24139179>
“The human beta-defensins (hBDs) are a highly conserved family of cationic antimicrobial and immunomodulatory peptides expressed primarily by epithelial cells in response to invasion by bacteria, fungi and some viruses. ... Our findings suggest interplay between hBD-1 and neuroimmunological responses in AD, marked by microglial and astrocytic activation, and increased expression of the peptide within the choroid plexus and accumulation within GVD. As a constitutively expressed component of the innate immune system, we propose that hBD-1 may be of considerable importance early in the disease process.”

White MR, Kandel R, Tripathi S, Condon D, Qi L, Taubenberger J, Hartshorn KL (2014) **Alzheimer's associated beta-amyloid protein inhibits influenza A virus and modulates viral interactions with phagocytes.** PLoS One 9, e101364.

Bourgade K, Garneau H, Giroux G et al. (2015) **Beta-amyloid peptides display protective activity against the human Alzheimer's disease-associated herpes simplex virus-1.** Biogerontology 16, 85–98.

[Nisbet RM](#), [Polanco JC](#), [Ittner LM](#), [Götz J](#) (2015) **Tau aggregation and its interplay with amyloid- β .** Acta Neuropathol. 129, 207–220. Published online 2014 Dec 10. doi: 10.1007/s00401-014-1371-2 <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4305093/>

Lee S-H et al. (2016) **Antibody-mediated targeting of tau in vivo does not require effector function and microglial engagement.** Cell Reports, doi:10.1016/j.celrep.2016.06.099 [http://www.cell.com/cell-reports/fulltext/S2211-1247\(16\)30868-3](http://www.cell.com/cell-reports/fulltext/S2211-1247(16)30868-3)

Bourgade K, Le PA, Bocti C, Witkowski JM, Dupuis G, Frost EH, Fulop T Jr (2016) **Protective effect of amyloid-beta peptides against herpes simplex virus-1 infection in a neuronal cell culture model.** J Alzheimers Dis, doi: 10.3233/JAD-150652.

[Spitzer P](#), [Condic M](#), [Herrmann](#) et al. (2016) **Amyloidogenic amyloid- β -peptide variants induce microbial agglutination and exert antimicrobial activity.** Sci Rep. 6, 32228. doi: 10.1038/srep32228. <http://www.nature.com/articles/srep32228> <http://www.ncbi.nlm.nih.gov/pubmed/27624303>
« These data demonstrate that the amyloidogenic A β _{x-42} variants have antimicrobial activity and may therefore act as antimicrobial peptides in the immune system. »

Behandle physikalisch, probiotisch und bei vitaler Indikation zusätzlich mit Antibiotika, dann aber gezielt, hart und so frühzeitig wie möglich.
Treat physically, probiotic and in case of vital indication additionally with antibiotics, but then targeted, hard and as early as possible.

- [Therapie bei chronischen Multiinfektionskrankheiten durch Krankheitserreger](#)
- [Treatment of chronic multi infectious diseases caused by pathogenic agends](#)
- http://www.kabilahsystems.de/therap_02_virus.pdf o.a.
- Huismans BD (2017) **Chronic Inflammatory Disorders. Multisystem diseases caused by pathogens.** http://www.kabilahsystems.de/ko-erreg_eupd1.pdf

Cummings JL, Morstorf T, Zhong K (2014) **Alzheimer's disease drug-development pipeline: Few candidates, frequent failures.** *Alzheimers Res Ther* 6, 37

<http://www.ncbi.nlm.nih.gov/pubmed/25024750>

[Pharmazeutical Companies mostly for modalities of symptomatic treatment]

„The Clinicaltrials.gov database demonstrates that relatively few clinical trials are undertaken for AD therapeutics, considering the magnitude of the problem. The success rate for advancing from one phase to another is low, and the number of compounds progressing to regulatory review is among the lowest found in any therapeutic area. The AD drug-development ecosystem requires support. “

Immuntherapie (Antikörper) gegen Amyloid Proteine im Gehirn.

Immunotherapy (antibodies) against amyloid proteins in the brain:

Solanezumab <http://www.scinexx.de/wissen-aktuell-20876-2016-11-25.html>

Aducanumab <http://www.scinexx.de/wissen-aktuell-20564-2016-09-01.html>

Beta-Amyloid-Immuntherapie <https://de.wikipedia.org/wiki/Beta-Amyloid-Immuntherapie>

- **Alzheimer Forschung Initiative e.V.** [WWW.alzheimer-forschung.de](http://www.alzheimer-forschung.de)
- Alzheimer's Society (2016) **Drug treatments for Alzheimer's disease.** https://www.alzheimers.org.uk/site/scripts/documents_info.php?documentID=147

[Bernt-Dieter Huismans](#), Letzte Revision August 2017 www.Huismans.click



Back to top: <http://www.erlebnishaft.de/alzheimerspirochaetosis.pdf>