

Discovery

2006 – 2015: Full characterization of protein misfolding and the affected ion channel

July 1st, 2006

P4–083: Amyloid ion channels: A common structural link for protein–misfolding disease pathogenesis?

<https://alz-journals.onlinelibrary.wiley.com/doi/full/10.1016/j.jalz.2006.05.1821>

August 2007

Amyloid beta ion channel: 3D structure and relevance to amyloid channel paradigm

<https://www.sciencedirect.com/science/article/pii/S000527360700154X>

2007

Chapter 6: Protein misfolding, aggregation, and fibril formation: common features of cerebral and non-cerebral amyloidosis

<https://books.google.com/books?hl=en&lr=&id=LwTtn3zKPsAC&oi=fnd&pg=PA133&dq=ratnesh+lal+amyloid&ots=4QaYin-gW9&sig=U5JS2sgX4RwuATvVBIRjLgN5nn8#v=onepage&q=ratnesh%20lal%20amyloid&f=false>

November 15th, 2008

Models of Toxic β -Sheet Channels of Protegrin-1 Suggest a Common Subunit Organization Motif Shared with Toxic Alzheimer β -Amyloid Ion Channels

[https://www.cell.com/fulltext/S0006-3495\(08\)78603-X](https://www.cell.com/fulltext/S0006-3495(08)78603-X)

February 2008

New structures help the modeling of toxic amyloid β ion channels

[https://www.cell.com/trends/biochemical-sciences/abstract/S0968-0004\(07\)00293-9](https://www.cell.com/trends/biochemical-sciences/abstract/S0968-0004(07)00293-9)

February 2009

Modeling amyloid toxic ion channels

[https://www.cell.com/biophysj/fulltext/S0006-3495\(08\)00560-2](https://www.cell.com/biophysj/fulltext/S0006-3495(08)00560-2)

September 25th, 2009

K3 Fragment of Amyloidogenic β_2 -Microglobulin Forms Ion Channels: Implication for Dialysis Related Amyloidosis

<https://pubs.acs.org/doi/full/10.1021/ja9049299>

December 2nd, 2009

Misfolded Amyloid Ion Channels Present Mobile β -Sheet Subunits in Contrast to Conventional Ion Channels

[https://www.cell.com/AJHG/fulltext/S0006-3495\(09\)01460-X](https://www.cell.com/AJHG/fulltext/S0006-3495(09)01460-X)

February 16th, 2010

Truncated β -amyloid peptide channels provide an alternative mechanism for Alzheimer's Disease and Down syndrome

<https://www.pnas.org/doi/abs/10.1073/pnas.0914251107>

November 14th 2011

Antimicrobial Properties of Amyloid Peptides

<https://pubs.acs.org/doi/abs/10.1021/mp200419b>

January 4th, 2012

Atomic Force Microscopy and MD Simulations Reveal Pore-Like Structures of All-d-Enantiomer of Alzheimer's β -Amyloid Peptide: Relevance to the Ion Channel Mechanism of AD Pathology

<https://pubs.acs.org/doi/abs/10.1021/jp2108126>

March 13th, 2012

Effects of Point Substitutions on the Structure of Toxic Alzheimer's β -Amyloid Channels: Atomic Force Microscopy and Molecular Dynamics Simulations

<https://pubs.acs.org/doi/abs/10.1021/bi300257e>

December 5th, 2012

Mechanisms for the Insertion of Toxic, Fibril-like β -Amyloid Oligomers into the Membrane

<https://pubs.acs.org/doi/abs/10.1021/ct300916f>

2013

Alzheimer's disease: which type of amyloid-preventing drug agents to employ?

<https://pubs.rsc.org/en/content/articlelanding/2013/cp/c3cp00017f/unauth>

September 3, 2013

Familial Alzheimer's Disease Osaka Mutant (Δ E22) β -Barrels Suggest an Explanation for the Different A $\beta_{1-40/42}$ Preferred Conformational States Observed by Experiment

<https://pubs.acs.org/doi/abs/10.1021/jp405389n>

2014

Disordered amyloidogenic peptides may insert into the membrane and assemble into common cyclic structural motifs

<https://pubs.rsc.org/en/content/articlelanding/2014/cs/c3cs60459d/unauth>

2014

Chapter 36 - Structure–Function Studies of Amyloid Pores in Alzheimer’s Disease as a Case Example of Neurodegenerative Diseases

<https://www.sciencedirect.com/science/article/abs/pii/B9780123944313000365>

January 28, 2014

Biomechanical Basis of Alzheimer's Disease and Other Protein Misfolding Diseases: Designing a New AFM Probe to Study Amyloid-Mediated Membrane Disorders

[https://www.cell.com/biophysj/fulltext/S0006-3495\(13\)02690-8](https://www.cell.com/biophysj/fulltext/S0006-3495(13)02690-8)

November 17th, 2015

Ion Channel Formation by Tau Protein: Implications for Alzheimer’s Disease and Tauopathies

<https://pubs.acs.org/doi/full/10.1021/acs.biochem.5b00988>