

A structural-dynamical characterization of human Cox17

Banci, Lucia; Bertini, Ivano; Ciofi-Baffoni, Simone; Janicka, Anna; Martinelli, Manuele; Kozłowski, Henryk; **Palumaa, Peep** Journal of biological chemistry 2008 / 12, p. 7912-7920 : ill <https://pubmed.ncbi.nlm.nih.gov/18093982/>

Affinity gradients drive copper to cellular destinations

Banci, Lucia; Bertini, Ivano; Ciofi-Baffoni, Simone; Kozyreva, Tatiana; **Zovo, Kairit; Palumaa, Peep** Nature 2010 / p. 645-648 : ill <https://doi.org/10.1038/nature09018>

Affinity of zinc and copper ions for insulin monomers

Gavrilova, Julia; Tõugu, Vello; Palumaa, Peep Metallomics 2014 / p. 1296-1300 : ill <https://doi.org/10.1039/c4mt00059e> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Amino acid profiling in human follicular fluid and plasma of IVF patients

Kirsipuu, Tiina; Laks, Katrina; Velthut, Agne; Palumaa, Peep FEBS journal 2013 / p. 282

Amyloid beta 1-42 oligomerization in vitro and characterization with SDS-PAGE, MALDI and ESI MS

Friedemann, Merlin; **Tõugu, Vello; Kirsipuu, Tiina; Palumaa, Peep** FEBS journal 2013 / p. 140-141

Application of Differentiated SH-SY5Y Cells for Toxicological Studies of Alzheimer's Amyloid Beta Peptide = Diferentseeritud SH-SY5Y rakkude kasutamine Alzheimeri amüloid beeta peptiidi toksilisuse uurimiseks

Krištal, Jekaterina 2020 <https://digikogu.taltech.ee/et/Item/8aef400a-e1ff-4803-a0da-fc2d97c8d451>

Assessment of blood contamination in biological fluids using MALDI-TOF MS

Laks, Katrina; Kirsipuu, Tiina; Dmitrijeva, Tuuli; Salumets, Andres; Palumaa, Peep The protein journal 2016 / 171-176 <https://doi.org/10.1007/s10930-016-9657-y> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Assessment of blood contamination in biological fluids using MALDI-TOF MS

Laks, Katrina; Kirsipuu, Tiina; Dmitrijeva, Tuuli; Salumets, Andres; Palumaa, Peep FEBS journal 2013 / p. 489

Binding of zinc(II) and copper(II) to the full-length Alzheimer's amyloid-[beeta] peptide

Tõugu, Vello; Karafin, Ann; Palumaa, Peep Journal of neurochemistry 2008 / p. 1249-1259 : ill <https://pubmed.ncbi.nlm.nih.gov/18289347/>

Bioanorgaaniline keemia - probleemid ja perspektiivid metallotioneiini näitel

Palumaa, Peep XXV Eesti keemiapäevad : teaduskonverentsi ettekannete referaadid = 25th Estonian Chemistry Days : abstracts of scientific conference 1999 / lk. 126

Biokeemia : lühikursus : õpik kõrgkoolidele

Tymoczko, John L; Berg, Jeremy M; Stryer, Lubert 2016 https://www.ester.ee/record=b4562473*est

Biological redox switches

Palumaa, Peep Antioxidants & redox signaling 2009 / 5, p. 981-983 <https://pubmed.ncbi.nlm.nih.gov/19186997/>

Brain-specific metallothionein-3 has higher metal-binding capacity than ubiquitous metallothioneins and binds metals noncooperatively

Palumaa, Peep; Eriste, Elo; Njunkova, Olga; Pokras, Lesja; Jörnval, H.; Sillard, Rannar Biochemistry 2002 / 19, p.6158-6163 <https://pubmed.ncbi.nlm.nih.gov/11994011/>

Characterization of Uranyl (UO₂²⁺) ion binding to Amyloid Beta (A β) peptides : effects on A β structure and aggregation

Berntsson, Elina; Vosough, Faraz; Noormägi, Andra; Padari, Kärt; Asplund, Fanny; Gielnik, Maciej; Paul, Suman; Jarvet, Jüri; Tõugu, Vello; Palumaa, Peep ACS chemical neuroscience 2023 / p. 2618-2633 : ill <https://doi.org/10.1021/acscchemneuro.3c00130> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Chemical modification of met and his residues of amyloid β peptide. Influence of copper ions and effect on fibrillization = Metioniini ja histidiini jääkide keemiline modifitseerimine amüloid- β peptiidis. Vaskioonide mõju ja efekt fibrillisatsioonile

Sardis, Merlin 2021 <https://doi.org/10.23658/taltech.19/2021> https://www.ester.ee/record=b5416905*est <https://digikogu.taltech.ee/et/Item/acced69c-c690-4cb5-a972-48e1c4ae5c66>

Comparison of confirmations of zinc- and cadmium-substituted metallothionein-3 by ESI MS

Palumaa, Peep; Eriste, Elo; Njunkova, Olga; Pokras, Lesja; Jörnval, Hans; Sillard, Rannar The 50th ASMS Conference on Mass Spectrometry and Allied Topics 2002 / ? p

Comprehensive elucidation of amino acid profile in human follicular fluid and plasma of in vitro fertilization patients

Kirsipuu, Tiina; Laks, Katrina; Velthut-Meikas, Agne; Levkov, Lev; Salumets, Andres; Palumaa, Peep Gynecological endocrinology 2015 / p. 9-17 : ill <https://doi.org/10.3109/09513590.2015.1085186> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal](#)

Coordination of zinc ions to the key proteins of neurodegenerative diseases: A[β], APP, α -synuclein and PrP
Tõugu, Vello; Palumaa, Peep Coordination chemistry reviews 2012 / p. 2219-2224 : ill
https://www.researchgate.net/publication/236131300_Coordination_of_zinc_ions_to_the_key_proteins_of_neurodegenerative_diseases_Ab_APP_a-synuclein_and_PrP

Copper chaperones. The concept of conformational control in the metabolism of copper
Palumaa, Peep FEBS letters 2013 / p. 1902-1910 : ill [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Copper metabolism in health and disease : focus on copper in adipogenesis and α -lipoic acid in Wilson disease = Vase ainevahetus tervise ja haiguse tingimustes : fookus vasele adipogeneesil ja α -lipoehappele Wilsoni tõve korral
Kabin, Ekaterina 2023 <https://doi.org/10.23658/taltech.69/2023> <https://digikogu.taltech.ee/et/Item/6b47422f-75fd-4e9a-b16c-8edd3c3e201a>
https://www.ester.ee/record=b5645433*est

Copper(I)-binding properties of de-coppering drugs for the treatment of Wilson disease. α -Lipoic acid as a potential anti-copper agent
Smirnova, Julia; Kabin, Ekaterina; Järving, Ivar; Bragina, Olga; Tõugu, Vello; Plitz, Thomas; Palumaa, Peep Scientific reports 2018 / art. 1463, 9 p. : ill <https://doi.org/10.1038/s41598-018-19873-2> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Copper(I)-binding properties of de-coppering drugs for treatment of Wilson disease
Smirnova, Julia; Kabin, Ekaterina; Järving, Ivar; Tõugu, Vello; Plitz, T.; Palumaa, Peep The FEBS journal 2017 / p. 337
<https://doi.org/10.1111/febs.14174>

Copper(II) ions and the Alzheimer's amyloid- β peptide : affinity and stoichiometry of binding
Tõugu, Vello; Friedemann, Merlin; Tiiman, Ann; Palumaa, Peep AIP conference proceedings 2014 / p. 109-111

Copper(II)-binding equilibria in human blood
Kirsipuu, Tiina; Zadorožnaja, Anna; Smirnova, Julia; Friedemann, Merlin; Plitz, Thomas; Tõugu, Vello; Palumaa, Peep Scientific reports 2020 / art. 5686, 10 p. : ill <https://doi.org/10.1038/s41598-020-62560-4> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Cox17, a copper chaperone for cytochrome c oxidase : expression, purification and formation of mixed disulphide adducts with thiol reagents
Voronova, Anastassia; Kazantseva, Jekaterina; Tuuling, Marina; Sokolova, Niina; Sillard, Rannar; Palumaa, Peep Protein expression and purification 2007 / 1, p. 138-144 : ill <https://www.sciencedirect.com/science/article/pii/S1046592806003901>
<https://www.sciencedirect.com/science/article/pii/S1046592806003901>

Cu(II) partially protects three histidine residues and the N-terminus of amyloid- β peptide from diethyl pyrocarbonate (DEPC) modification
Friedemann, Merlin; Tõugu, Vello; Palumaa, Peep FEBS Open Bio 2020 / p. 1072-1081 <https://doi.org/10.1002/2211-5463.12857>
[Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Determination of metal-protein complexes and posttranslational modifications by LC-(ESI-TOF)-MS
Sillard, Rannar; Eriste, Elo; Njunkova, Olga; Pokras, Lesja; Jörnvall, Hans; Wadensten, Henrik; Renlund, Staffan; Palumaa, Peep Proceedings of the 49th ASMS Conference on Mass Spectrometry and Allied Topics : Chicago, Illinois, May 27-31, 2001 2001 / p. 11-12 : ill

Direct competition of ATCUN peptides with human serum albumin for copper(II) ions determined by LC-ICP MS
Noormägi, Andra; Golubeva, Tatjana; Berntsson, Elina; Wärmländer, Sebastian K.T.S.; Tõugu, Vello; Palumaa, Peep ACS omega 2023 / p. 33912-33919 <https://doi.org/10.1021/acsomega.3c04649> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Eessõna eestikeelsele väljaandele
Palumaa, Peep Biokeemia : lühikursus : õpik kõrgkoolidele 2016 / 1 p https://www.ester.ee/record=b4562473*est

Eesti biokeemik hoiatab: koroonaviirus püsib nakkusohtlikuna õhus mitu tundi, pindadel isegi mitu päeva!
Palumaa, Peep Õhtuleht 2020 / Lk. 6 <https://tervis.ohuleht.ee/995397/eesti-biokeemik-hoiatab-koroonaviirus-pusib-nakkusohtlikuna-ohus-mitu-tundi-pindadel-isegi-mitu-paeva> https://www.ester.ee/record=b1408161*est

Eesti biokeemik hoiatab: koroonaviirus võib olla inimest nakatavate viiruste seas absoluutne maailmameister!
[Võrguteavik]
Palumaa, Peep Õhtuleht 2020 [Eesti biokeemik hoiatab: koroonaviirus võib olla inimest nakatavate viiruste seas absoluutne maailmameister!](#)

Eesti biokeemik hoiatab: ohtlik koroonaviirus suudab nõrga tervisega inimesele tekitada korvamatut kahju

Palumaa, Peep Õhtuleht.ee 2020 <https://tervis.ohuleht.ee/996404/eesti-biokeemik-hoiatab-ohlik-koroonaviirus-suudab-norga-tervisega-inimesele-tekitada-korvamatut-kahju>

Eesti biokeemik: iga samm võib olla saatuslik, pandeemia edukas läbimine sõltub tervisekäitumisest

Palumaa, Peep tervis.ohuleht.ee 2020 / fot <https://tervis.ohuleht.ee/997553/eesti-biokeemik-iga-samm-voib-olla-saatuslik-pandeemia-edukas-labimine-soltub-tervisekaitumisest>

Eesti biokeemik: peame end kaitsma surmava viirusedoosi eest kõigi võimalike vahenditega!

Palumaa, Peep Õhtuleht 2020 / Lk. 4-5 : portr https://www.ester.ee/record=b1408161*est

Eesti teadlased aitavad EAS-i raha abil võidelda Alzheimeri tõve vastu : [Peep Palumaa kommentaariga uuringutest ravimi tootmiseks]

Feldmanis, Andris; **Palumaa, Peep** Eesti Päevaleht 2005 / 6. aug., lk. 4 : fot

Effect of agitation on the peptide fibrillization: Alzheimer's amyloid- b peptide 1-42 but not amylin and insulin fibrils can grow under quiescent conditions

Tiiman, Ann; Noormägi, Andra; Friedemann, Merlin; Krištal, Jekaterina; Palumaa, Peep; Tõugu, Vello Journal of peptide science 2013 / p. 386-391 : ill <https://doi.org/10.1002/psc.2513> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Effect of methionine-35 oxidation on the aggregation of amyloid-β peptide

Friedemann, Merlin; Helk, Eneken; Tiiman, Ann; Zovo, Kairit; Palumaa, Peep; Tõugu, Vello Biochemistry and biophysics reports 2015 / p. 94-99 : ill <http://dx.doi.org/10.1016/j.bbrep.2015.07.017>

Effect of Zn(II) and Cu(II) ions on aggregation and fibrillation of amyloid-beta(1-42) peptide

Palumaa, Peep; Karafin, Ann; Zovo, Kairit; Chung, Roger S.; Howells, Claire; West, Adrian K.; **Tõugu, Vello** Sinapsa Neuroscience Conference '09 : Ljubljana, 26-29 September 2009 : abstract book 2009 / p. 34

Effects of Zn²⁺ ions and environmental conditions on the fibrillization of insulin = Zn²⁺ ionide ja keskkonnatingimuste mõju insuliini fibrillatsiooni

Noormägi, Andra 2018 <https://digi.lib.ttu.ee/i/?10378> https://www.ester.ee/record=b5148492*est

Elu alus. Energia ja energeetika

Palumaa, Peep Horisont 2012 / lk. 10-19 : ill https://artiklid.elnet.ee/record=b2467453*est

Erratum to: Assessment of Blood Contamination in Biological Fluids Using MALDI-TOF MS (Protein J, 10.1007/s10930-016-9657-y)

Laks, Katrina; Kirsipuu, Tiina; Dmitrijeva, Tuuli; Salumets, Andres; Palumaa, Peep Protein Journal 2016 / p. 177 - 178 <https://doi.org/10.1007/s10930-016-9660-3> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

ESI TOF MS in protein structure analysis

Palumaa, Peep; Eriste, Elo; Njunkova, Olga; Pokras, Lesja; Jõrmvall, Hans; Sillard, Rannar The 1st International Symposium on Short-chain Dehydrogenases/reductases in Cancer and other Diseases 2002 / ? p

Evaluation of Zn²⁺- and Cu²⁺-binding affinities of native Cu,Zn-SOD1 and its G93A mutant by LC-ICP MS

Smirnova, Julia; Gavrilova, Julia; Noormägi, Andra; Valmsen, Karin; Pupart, Hegne; Luo, Jinghui; Tõugu, Vello; Palumaa, Peep Molecules 2022 / art. 3160 <https://doi.org/10.3390/molecules27103160> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Evidence for non-isostructural replacement of Zn(2+) with Cd(2+) in the beta-domain of brain-specific metallothionein-3

Palumaa, Peep; Njunkova, Olga; Pokras, Lesja; Eriste, Elo; Jõrmvall, H.; Sillard, Rannar FEBS letters 2002 / 1/3, p. 76-80 : ill <https://www.sciencedirect.com/science/article/pii/S0014579302031691>

Fibrillization of the mixtures of amyloid beta 1-40 and 1-42

Krištal, Jekaterina; Friedemann, Merlin; Tõugu, Vello; Palumaa, Peep Neurodegenerative diseases 2015 / p. 364 <http://dx.doi.org/10.1159/000381736>

Formation of [4Fe-4S] clusters in the mitochondrial iron-sulfur cluster assembly machinery

Brancaccio, Diego; Zovo, Kairit; Palumaa, Peep Journal of the American Chemical Society 2014 / p. 16240-16250 : ill <https://doi.org/10.1021/ja507822j> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Functional characterization of the cellular copper proteome = Rakulise vase proteoomi funktsionaalne iseloomustamine
Zovo, Kairit 2011

Genoomika, proteoomika... ehk kuhu liigub bioloomusteadus?

A hint for the function of human Sco1 from different structures

Banci, Lucia; Bertini, Ivano; **Palumaa, Peep** Proceedings of the National Academy of Sciences of the United States of America 2006 / 23, p. 8595-8600 <https://pubmed.ncbi.nlm.nih.gov/16735468/>
https://www.academia.edu/14865179/A_hint_for_the_function_of_human_Sco1_from_different_structures

Human Sco1 functional studies and pathological implications of P174L mutant

Banci, Lucia; Bertini, Ivano; **Palumaa, Peep**; Sillard, Rannar Proceedings of the National Academy of Sciences of the United States of America 2007 / 1, p. 15-20
https://www.researchgate.net/publication/6617178_Human_Sco1_functional_studies_and_pathological_implications_of_the_P174L_mutant

Human superoxide dismutase 1 (hSOD1) maturation through interaction with human copper chaperone for SOD1 (hCCS)

Banci, Lucia; Bertini, Ivano; Cantini, Francesca; Kozyreva, Tatiana; Massagni, Chiara; **Palumaa, Peep**; Rubino, Jeffrey; Zovo, Kairit Proceedings of the National Academy of Sciences 2012 / p. 13555-13560
https://www.researchgate.net/publication/230624025_Human_superoxide_dismutase_1_hSOD1_maturation_through_interaction_with_human_copper_chaperone_for_SOD1_hCCS

In situ fibrillizing amyloid-beta 1-42 induces neurite degeneration and apoptosis of differentiated SH-SY5Y cells

Krishtal, Jekaterina; Bragina, Olga; Metsla, Kristel; **Palumaa, Peep**; Tõugu, Vello PLoS ONE 2017 / art. e0186636, 16 p. : ill
<https://doi.org/10.1371/journal.pone.0186636> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

In vitro fibrillization of Alzheimer's amyloid-β peptide (1-42)

Tiiman, Ann; Krištál, Jekaterina; **Palumaa, Peep**; Tõugu, Vello AIP advances 2015 / p. 092401-1 - 092401-12 : ill
<https://doi.org/10.1063/1.4921071> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Insulin fibrillization at acidic and physiological pH values is controlled by different molecular mechanisms

Noormägi, Andra; Valmsen, Karin; Tõugu, Vello; **Palumaa, Peep** The protein journal 2015 / p. 398-403 : ill
<https://doi.org/10.1007/s10930-015-9634-x> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Interaction between oligomers of stefin B and amyloid-[beeta] in vitro and in cells

Škerget, Katja; Taler-Veričič, Ajda; Kumm, Tiina; **Palumaa, Peep** Journal of biological chemistry 2010 / 5, p. 3201-3210
<https://pubmed.ncbi.nlm.nih.gov/19955183/>

Interactions of Alzheimer's amyloid-β peptides with Zn(II) and Cu(II) ions = Alzheimeri amüloid-β peptiidide interaktsioonid Zn(II) ja Cu(II)ioonidega

Tiiman, Ann 2012 https://www.ester.ee/record=b2866174*est

Interactions of metal ions with peptides and proteins related to Alzheimer's disease = Metallioonide interaktsioonid Alzheimeri tõvega seotud peptiidide ja valkudega

Berntsson, Elina 2025 https://www.ester.ee/record=b5720764*est <https://doi.org/10.23658/taltech.5/2025>
<https://digikogu.taltech.ee/et/Item/ccd57cc9-0670-4c08-b9b8-9bc359475486>

Interactions of zinc(II) and copper(II) to the full-length Alzheimer's amyloid-B peptide in vitro

Karafin, Ann; **Palumaa, Peep**; Tõugu, Vello FEBS journal 2008 / Suppl. 1, p. 222

Interactions of Zn(II) and Cu(II) ions with Alzheimer's amyloid-beta peptide. Metal ion binding, contribution to fibrillization and toxicity

Tõugu, Vello; Tiiman, Ann; **Palumaa, Peep** Metallomics 2011 / p. 250-261 : ill
<https://academic.oup.com/metallomics/article/3/3/250/6016214>

Interference of low-molecular substances with the thioflavin-T fluorescence assay of amyloid fibrils

Noormägi, Andra; Primar, Kateryna; Tõugu, Vello; **Palumaa, Peep** Journal of peptide science 2012 / p. 59-64 : ill
<https://pubmed.ncbi.nlm.nih.gov/22083646/>

Investigation of properties and reaction mechanisms of redox-active proteins by ESI MS = Redoks-aktiivsete valkude omaduste ja reaktsioonimehhanismide uurimine ESI-MS abil

Smirnova, Julia 2013 https://www.ester.ee/record=b2965120*est

Kuida elab Eesti teadus?

Palumaa, Peep Sirp 2020 / lk. 36-37 : ill <https://www.sirp.ee/s1-artiklid/c21-teadus/kuidas-elab-eesti-teadus/>

Label-free high-throughput screening assay for inhibitors of Alzheimer's amyloid-[beeta] peptide aggregation based on MALDI MS

Zovo, Kairit; Helk, Eneken; Karafin, Ann; Tõugu, Vello; **Palumaa, Peep** Analytical chemistry 2010 / p. 8558-8565
https://www.researchgate.net/publication/46392320_Label-Free_High-Throughput_Screening_Assay_for_Inhibitors_of_Alzheimer's_Amyloid-beta_Peptide_Aggregation_Based_on_MALDI_MS

Large-scale HPCL purification of Calbindin D9k from porcine intestine

Bonetto, V.; Kangur, Liina; **Palumaa, Peep**; Mutt, V.; Jõrnvall, Hans; Sillard, Rannar Protein expression and purification 1999 / 3, p. 387-391 <https://pubmed.ncbi.nlm.nih.gov/10600456/>

Lipoic acid ameliorates consequences of copper overload by upregulating selenoproteins and decreasing redox misbalance : poster presentations

Kabin, Ekaterina; Dong, Yixuan; Summers, Kelly; Yang, Haojun; Dev, Som; Wang, Yu; Devenney, Benjamin; Roy, Shubhrajit; **Palumaa, Peep**; Lutsenko, Svetlana Acta physiologica 2023 / art. e14044 <https://doi.org/10.1111/apha.14044>

Lisad, sõnastik, ülesannete vastused, indeks

Biokeemia : lühikursus : õpik kõrgkoolidele 2016 / [87] lk. : ill

Mammalian copper chaperone Cox17 exist in two metalloforms linked by oxydative switch

Palumaa, Peep; Voronova, Anastassia; Kangur, Liina; Sillard, Rannar; Meyer-Klauke, W.; Meyer, Thomas; Rompel, Anette The FEBS journal 2005 / Supplement 1, p. 386-387

Maximum entropy reconstruction of joint [phi], [psi]-distribution with a coil-library prior : the backbone conformation of the peptide hormone motilin in aqueous solution from [phi] and [psi]-dependent J-couplings

Massad, Tariq; Jarvet, Jüri; Tanner, Risto; **Tomson, Katrin**; **Smirnova, Julia**; **Palumaa, Peep**; Sugai, Mariko; Kohno, Toshiyuki; **Vanatalu, Kalju**; Damberg, Peter Journal of biomolecular NMR 2007 / 2, p. 107-123
https://www.researchgate.net/publication/6369716_Maximum_entropy_reconstruction_of_joint_phis-distribution_with_a_coil-library_prior_The_backbone_conformation_of_the_peptide_hormone_motilin_in_aqueous_solution_from_ph_and_ps-dependent_J-couplings

Mercury and Alzheimer's disease: Hg(II) ions display specific binding to the amyloid-β peptide and hinder its fibrillization

Wallin, Cecilia; **Friedemann, Merlin**; Sholts, Sabrina B.; **Noormägi, Andra**; Svantesson, Teodor; Järvet, Jüri; Roos, Per M.; **Palumaa, Peep**; Gräslund, Astrid; Wärmländer, Sebastian K.T.S. Biomolecules 2020 / art. 44, 23 p. : ill
<https://doi.org/10.3390/biom10010044> Journal metrics at Scopus Article at Scopus Journal metrics at WOS Article at WOS

Metabolism of copper and possibilities for its regulation

Palumaa, Peep Proceedings of the Estonian Academy of Sciences 2023 / p. 382-392 <https://doi.org/10.3176/proc.2023.4.03> Journal metrics at Scopus Article at Scopus Journal metrics at WOS Article at WOS

Metal binding of metallothionein-3 versus metallothionein-2 : lower affinity and higher plasticity

Palumaa, Peep; Tammiste, Indrek; Kruusel, Keiu; **Kangur, Liina**; Jõrnvall, Hans; **Sillard, Rannar** Biochimica et biophysica acta : proteins and proteomics 2005 / 2, p. 205-211 : ill <https://www.sciencedirect.com/science/article/pii/S1570963904003164>

Metal binding to brain-specific metallothionein-3 studied by electrospray ionization mass spectrometry

Palumaa, Peep; Eriste, Elo; Kruusel, Keiu; **Kangur, Liina**; Jõrnvall, Hans; Sillard, Rannar Cellular and molecular biology 2003 / 5, p. 763-768 <https://pubmed.ncbi.nlm.nih.gov/14528913/>

Metal-binding mechanism of Cox17, a copper chaperone for cytochrome c oxidase

Palumaa, Peep; Kangur, Liina; Voronova, Anastassia; Sillard, Rannar Biochemical journal 2004 / 1, p. 307-314
<https://pubmed.ncbi.nlm.nih.gov/15142040/>

Metal-binding properties of unique Cys-deficient mammalian metallothionein - sheep MT-3

Smirnova, Julia; Zovo, Kairit; Chung, Roger S.; West, A.K.; **Palumaa, Peep** FEBS journal 2008 / Suppl. 1, p. 230

Metallothionein 2A affects the cell respiration by suppressing the expression of mitochondrial protein cytochrome c oxidase subunit II

Bragina, Olga; Gurjanova, Karina; Krištal, Jekaterina; Kulp, Maria; Karro, Niina; Tõugu, Vello; **Palumaa, Peep** Journal of bioenergetics and biomembranes 2015 / p. 209-216 : ill <https://doi.org/10.1007/s10863-015-9609-9> Journal metrics at Scopus Article at Scopus Journal metrics at WOS Article at WOS

Metallothionein induces a regenerative reactive astrocyte phenotype via JAK/STAT and RhoA signalling pathways

Leung, Y.; Pankhurst, M.; **Palumaa, Peep**; Sillard, Rannar Experimental neurology 2010 / 1, p. 98-106 : ill
<https://www.sciencedirect.com/science/article/pii/S0014488609004233>

Metallothionein-ligand seostumiskonstantide määramine

Kangur, Liina; Toomik, Peeter; **Palumaa, Peep** XXV Eesti keemiapäevad : teaduskonverentsi ettekannete referaadid = 25th Estonian Chemistry Days : abstracts of scientific conference 1999 / lk. 45-46

Mitochondrial copper(I) transfer from Cox17 to Sco1 is coupled to electron transfer

Banci, Lucia; Bertini, Ivano; Ciofi-Baffoni, Simone; Hadjiloi, Theodoros; Martinelli, Manuele; **Palumaa, Peep** PNAS 2008 / 19, p. 6803-6808 : ill <https://pubmed.ncbi.nlm.nih.gov/18458339/>

Modulation of redox switches of copper chaperone Cox17 by Xn(II) ions determined by new ESI MS-based approach

Zovo, Kairit; Palumaa, Peep Antioxidants & redox signaling 2009 / 5, p. 985-995 <https://pubmed.ncbi.nlm.nih.gov/19018666/>

Monitoring of A-beta fibrillization using an improved fluorimetric method

Karafin, Ann; Palumaa, Peep; Tõugu, Vello New Trends in Alzheimer and Parkinson Disorders : ADPD 2009 2009 / p. 255-259 <https://www.etis.ee/Portal/Publications/Display/979eb21d-601b-4aa1-b941-121eff184407>

Monitoring of amyloid-beta fibrillization using an improved fluorimetric method [Electronic resource]

Karafin, Ann; Palumaa, Peep; Tõugu, Vello Neurodegenerative diseases 2009 / S1, Alzheimer's and Parkinson's Diseases : Advances, Concepts and New Challenges, p. 799 [CD-ROM] <https://www.etis.ee/Portal/Publications/Display/979eb21d-601b-4aa1-b941-121eff184407>

Nähtamatud käskjalad - hormoonid : [selgitab Peep Palumaa]

Palumaa, Peep; Laanpere, Eha Kodutohter 2003 / 2, lk. 54-56 https://artiklid.elnet.ee/record=b2037360*est

Oligomerization and conformation of amyloidogenic protein human stefin B. Insight from ESI MS

Kumm, Tiina; Taler-Verecic, Ajda; Skerget, Katja; Friedemann, Merlin; Zerovnik, Eva; Palumaa, Peep FEBS journal 2010 / Suppl. 1, lk. 258

Organization and assembly of metal-thiolate clusters in epithelium-specific metallothionein-4

Meloni, Gabriele; **Zovo, Kairit; Kazantseva, Jekaterina; Palumaa, Peep**; Vašak, Milan Journal of biological chemistry 2006 / 21, p. 14588-14595 : ill https://www.researchgate.net/publication/7221929_Organization_and_Assembly_of_Metal-Thiolate_Clusters_in_Epithelium-specific_Metallothionein-4

Oxidation of Methionine-35 in Alzheimer's amyloid-beta peptide and the aggregation of the oxidized peptide

Friedemann, Merlin; Helk, Eneken; Tiiman, Ann; Zovo, Kairit; Palumaa, Peep; Tõugu, Vello SpringerPlus 2015 / p. 20, P13 <http://dx.doi.org/10.1186/2193-1801-4-S1-P13>

Oxidative switches in functioning of mammalian copper chaperone Cox17

Voronova, Anastassia; Meyer-Klaucke, Wolfram; Meyer, Thomas; Rompel, Anette; Krebs, Bernd; **Kazantseva, Jekaterina; Sillard, Rannar; Palumaa, Peep** Biochemical journal 2007 / p. 139-148 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2049083/>

Peep Palumaa : PRG744 ehk ühe granditaotluse sekeldused ETag-i hindamiskoogus [Võrguväljaanne]

Palumaa, Peep novaator.err.ee 2020 / fot [Peep Palumaa: PRG744 ehk ühe granditaotluse sekeldused ETag-i hindamiskoogus](https://novaator.err.ee/2020/07/16/peep-palumaa-prg744-ehk-ue-granditaotluse-sekeldused-etag-i-hindamiskoogus)

Porfüriinid ja bilirubiin pärsivad Alzheimeri amüloid beta peptiidi agregatsiooni

Tšekulajeva, Ludmilla; Ševtšuk, Igor; Tšekulajev, Vladimir; Palumaa, Peep XXX Eesti keemiapäevad : teaduskonverentsi teesid = 30th Estonian Chemistry Days : abstracts of scientific conference 2007 / lk. 165-166 https://www.ester.ee/record=b2314480*est

Purification of recombinant human apometallothionein-3 and reconstitution with zinc

Eriste, Elo; Kruusel, Keiu; **Palumaa, Peep**; Jõrnvall, Hans; Sillard, Rannar Protein expression and purification 2003 / 1, p. 161-165 : ill <https://pubmed.ncbi.nlm.nih.gov/12963354/>

Quantitative electrospray ionization mass spectrometry of zinc finger oxidation : the reaction of XPA zinc finger with H2O2

Smirnova, Julia; Zhukova, Liliya; Palumaa, Peep Analytical biochemistry 2007 / 2, p. 226-231 : ill

Rakulise vase proteoomi süsteemibioloogia

Palumaa, Peep; Zovo, Kairit XXXII Eesti Keemiapäevad : teaduskonverentsi teesid 2011 / lk. 73 : ill

Ravimatut Wilsoni tõbe aitab kontrolli all hoida looduslik antioksidant

Эстонские ученые обнаружили лечебные свойства у популярного антиоксиданта

Palumaa, Peep novaator.err.ee 2023 [Ravimatut Wilsoni tõbe aitab kontrolli all hoida looduslik antioksidant Эстонские ученые обнаружили лечебные свойства у популярного антиоксиданта](https://novaator.err.ee/2023/07/16/ravimatut-wilsoni-to-be-aitab-kontrolli-all-hoida-looduslik-antioksidant-estonskie-uchenyie-obnaruzhili-lechebnye-svoystva-u-populyarnogo-antioksidanta)

Reaction of the XPA zinc finger with S-nitrosoglutathione

Smirnova, Julia; Zhukova, Liliya; Witkiewicz-Kucharczyk, Aleksandra; Kopera, Edyta; Oledzki, Jacek; Wyslouch-Cieszyńska, Aleksandra; Palumaa, Peep; Hartwig, Andrea; Bal, Wojciech Chemical research in toxicology 2008 / p. 386-392 : ill <https://pubs.acs.org/doi/10.1021/tx700297f>

Reactivity of Cd7-metallothionein with Cu(II) ions : evidence for a cooperative formation of Cd3, Cu(I)5-metallothionein

Vaher, Maret; Romero-Isart, Nuria; Vašak, Milan; **Palumaa, Peep** Journal of inorganic biochemistry 2001 / p. 1-6 : ill <https://pubmed.ncbi.nlm.nih.gov/11192694/>

Redox and metal ion binding properties of human insulin-like growth factor 1 determined by electrospray ionization mass

spectrometry

Smirnova, Julia; Muhhina, Jekaterina; Tõugu, Vello; Palumaa, Peep Biochemistry 2012 / p. 5851-5859 : ill
<https://pubs.acs.org/doi/10.1021/bi300494s>

Redox properties of Cys2His2 and Cys4 zinc fingers determined by electrospray ionization mass spectrometry

Smirnova, Julia; Kabin, Ekaterina; Tõugu, Vello; Palumaa, Peep FEBS Open Bio 2018 / p. 923 - 931 <https://doi.org/10.1002/2211-5463.12422> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Redox-active Cu(II)–Aβ causes substantial changes in axonal integrity in cultured cortical neurons in an oxidative-stress dependent manner

Howells, Claire; **Saar, Katrina**; Eaton, Emma; Ray, Shannon; **Palumaa, Peep** Experimental neurology 2012 / p. 499-506 : ill
<https://www.sciencedirect.com/science/article/pii/S0014488612002373>

Role of metal ions in amyloidogenic properties of insulin and superoxide dismutase = Metallioonide roll insuliini ja superoksiidi dismutaasi amüloidogeensetes omadustes

Gavrilova, Julia 2022 <https://doi.org/10.23658/taltech.44/2022> <https://digikogu.taltech.ee/et/Item/693de590-2d9f-43d6-989e-ebac0544151d>
https://www.ester.ee/record=b5511706*est

Stability and conformation of polycopper-thiolate clusters studied by density functional approach

Ahte, Priit; **Palumaa, Peep**; Tamm, Toomas Journal of physical chemistry A 2009 / 32, p. 9157-9164 : ill
<https://pubs.acs.org/doi/10.1021/jp8114644>

Structural and functional insight into trafficking of copper in the cell

Palumaa, Peep; Banci, Lucia; Bertini, Ivano; Ciofi-Baffoni, Simone; **Zovo, Kairit** Journal of biological inorganic chemistry 2014 / p. S851

Structure and functioning of copper chaperones

Palumaa, Peep FEBS journal 2013 / p. 151

Šveitsi Tudengite Teaduspreemia 2002 välja antud : [TTÜ geenitehnoloogia magistrandile Olga Njunkovale : lühisõnum]

Palumaa, Peep Mente et Manu 2002 / lk. 2 https://www.ester.ee/record=b1242496*est

Šveitsi Tudengite Teaduspreemia võitja selgunud : [TTÜ infotehnika teaduskonna doktorant Jaan Raik : lühisõnum]

Palumaa, Peep Mente et Manu 2001 / lk. 2 https://www.ester.ee/record=b1242496*est

Zn(II) and Cu(II)-induced non-fibrillar aggregates of amyloid-[beta](1-42) peptide are transformed to amyloid fibrils both spontaneously and under the influence of metal chelators

Tõugu, Vello; Karafin, Ann; Zovo, Kairit; Chung, Roger S.; Howells, Claire; West, Adrian; **Palumaa, Peep** Journal of neurochemistry 2009 / 6, p. 1784-1795 : ill <https://pubmed.ncbi.nlm.nih.gov/19619132/>

Zn(II) ions co-secreted with insulin suppress inherent amyloidogenic properties of monomeric insulin

Noormägi, Andra; Gavrilova, Julia; Smirnova, Julia; Tõugu, Vello; Palumaa, Peep Biochemical journal 2010 / p. 511-518
<https://pubmed.ncbi.nlm.nih.gov/20632994/>

Zn(II) ions inhibit fibrillization of monomeric insulin

Noormägi, Andra; Gavrilova, Julia; Smirnova, Julia; Tõugu, Vello; Palumaa, Peep FEBS journal 2010 / Suppl. 1, p. 256

"Talendid koju" Eesti moodi : [tippteadlaste/professorite töö tasustamisest]

Palumaa, Peep Õpetajate Leht 2010 / lk. 7 https://artiklid.elnet.ee/record=b2179365*est

Teaduspreemia keemia ja molekulaarbioloogia alal uurimuste tsükli "Tsingi ja vase rakulised funktsioonid ja roll Alzheimeri tõve patoloogias" eest : Peep Palumaa

Palumaa, Peep Eesti Vabariigi teaduspreemiad 2011 2011 / lk. 58-79 : portr., ill

The effects of physiologically important nonmetallic ligands in the reactivity of metallothionein towards 5,5'-dithiobis(2-nitrobenzoic acid) : a new method for the determination of ligand interactions with metallothionein

Kangur, Liina; **Palumaa, Peep** European journal of biochemistry 2001 / p. 4979-4984 : ill <https://pubmed.ncbi.nlm.nih.gov/11559367/>

The missing link in the amyloid cascade of Alzheimer's disease - metal ions

Tiiman, Ann; Palumaa, Peep; Tõugu, Vello Neurochemistry international 2013 / p. 367-378 : ill
<https://doi.org/10.1016/j.neuint.2013.01.023> <https://www.sciencedirect.com/science/article/pii/S0197018613000326> [Journal metrics at Scopus](#)
[Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

The native copper- and zinc- binding protein metallothionein blocks copper-mediated A[beeta] aggregation and toxicity in rat cortical neurons

Chung, Roger S.; Howells, Claire; **Zovo, Kairit; Palumaa, Peep; Sillard, Rannar** PLoS ONE 2010 / 8, p. e12030 [11 p.]

The role of initial oligomers in amyloid fibril formation by human stefin B

Taler-Verčič, Ajda; Kirsipuu, Tiina; Friedemann, Merlin; Noormägi, Andra; Smirnova, Julia; Palumaa, Peep International journal of molecular sciences 2013 / p. 18362-18384 : ill <https://doi.org/10.3390/ijms140918362> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Toxicity of amyloid beta 1-40 and 1-42 on SH-SY5Y cell line

Krištal, Jekaterina; Bragina, Olga; Metsla, Kristel; Palumaa, Peep; Tõugu, Vello SpringerPlus 2015 / p. 21-22, P19 <http://dx.doi.org/10.1186/2193-1801-4-S1-P19>

Toxicity of amyloid- β peptides varies depending on differentiation route of SH-SY5Y cells

Krištal, Jekaterina; Metsla, Kristel; Bragina, Olga; Tõugu, Vello; Palumaa, Peep Journal of Alzheimer's disease 2019 / p. 879-887 <https://doi.org/10.3233/JAD-190705> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Tsingi ja vase rakulised funktsioonid ja roll Alzheimeri tõve patoloogias : kommentaar Eesti Vabariigi teaduse aastapreemia pälvinud tööde tsüklile

Palumaa, Peep Tallinna Tehnikaülikooli aastaraamat 2011 2012 / lk. 193-214 : ill

TTÜ geenitehnoloogid otsivad ravimit Alzheimeri tõvele

Palumaa, Peep; Helme, Kristi Mente et Manu 2013 / lk. 14-16 : fot

Uudne TTÜ teadlaste analüüs hõlbustab Alzheimeri tõve diagnoosimist [Võrguväljaanne]

Palumaa, Peep novaator.err.ee 2020 / fot [Uudne TTÜ teadlaste analüüs hõlbustab Alzheimeri tõve diagnoosimist](#)

Uudsed suunad Alzheimeri tõve ravimiarenduses

Palumaa, Peep Tallinna Tehnikaülikooli aastaraamat 2007 2008 / lk. 113-116

Vaskioonide roll Alzheimeri amüloidse beeta peptiidi [p. o. peptiidi] agregatsioonil ja toksilisusel

Tõugu, Vello; Tiiman, Ann; Palumaa, Peep XXXII Eesti Keemiapäevad : teaduskonverentsi teesid 2011 / lk. 102

α -lipoic acid ameliorates consequences of copper overload by up-regulating selenoproteins and decreasing redox misbalance

Kabin, Ekaterina; Dong, Yixuan; Roy, Shubhrajit; Smirnova, Julia; Smith, Joshua W.; Ralle, Martina; Summers, Kelly; Yang, Haojun; Dev, Som; Wang, Yu; Devenney, Benjamin; Cole, Robert N.; Palumaa, Peep; Lutsenko, Svetlana Proceedings of the National Academy of Sciences 2023 / art. e2305961120 <https://doi.org/10.1073/pnas.2305961120> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

α -Lipoic acid has the potential to normalize copper metabolism, which is dysregulated in Alzheimer's disease

Metsla, Kristel; Kirss, Sigrid; Laks, Katrina; Sildnik, Gertrud; Palgi, Mari; Palumaa, Teele; Tõugu, Vello; Palumaa, Peep Journal of Alzheimer's Disease 2022 / p. 715-728 <https://doi.org/10.3233/JAD-215026> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

α -Lipoic acid: a potential regulator of copper metabolism in Alzheimer's disease

Kirss, Sigrid; Reinapu, Anette; Kabin, Ekaterina; Smirnova, Julia; Tõugu, Vello; Palumaa, Peep Frontiers in Molecular Biosciences 2024 / art. 1451536 <https://doi.org/10.3389/fmolb.2024.1451536> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)