

CHEPON 2024

15th International Meeting on Cholinesterases
9th International Conference on Paraoxonases

Brdo pri Kranju, Slovenia
15 – 18 September, 2024

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on Cholinesterases
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9th International Conference
on Paraoxonases
15 – 18 September, 2024

Organised by



UNIVERSITY
OF LJUBLJANA

MF

Faculty of
Medicine



UNIVERSITY
OF LJUBLJANA

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Faculty of
Pharmacy

Programme

PROGRAMME

Plenary and other Distinguished Lectures

Sunday - Opening Session, Sunday, Sep 15 2024, 18:00-19:30

Session: **Plenary and other Distinguished Lectures**

Chairs: Stanislav Gobec, Jure Stojan, Aljoša Bavec and Marko Goličnik

18:00 **A single nucleotide polymorphism in the human AChE gene alters miR-608 levels, anxiety and inflammatory status**
PL-1

Hermona Soreq, Nimrod Madrer, Yonat Tzur, Adi Bar, Estelle Bennett, Alon Simchovitz, David Greenberg

18:45 **PON1, as a common denominator of neurodegenerative and cardiovascular diseases: proactive player or static biomarker?**
PL-2

Carlo Cervellati, Raffealla Riccetti, Gianmarco Mola, Valentina Rosta, Alessandro Trentini

Wednesday - Memorial Lecture, Wednesday, Sep 18 2024, 16:00-16:30

Session: **Plenary and other Distinguished Lectures**

Chair: Eugenio Vilanova

16:00 **Memorial Lecture**
PL-3 *Eugenio Vilanova*

Wednesday - Closing Lecture, Wednesday, Sep 18 2024, 16:30-17:15

Session: **Plenary and other Distinguished Lectures**

Chair: Jure Stojan

16:30 **Structural Characterization of Orphan and Taxonomically Restricted Proteins**
PL-4

Israel Silman

Oral Presentations

Monday – Morning Lectures, Monday, Sep 16 2024, 8:30–10:20

Session: **Session I – Structure and dynamics of cholinesterases, paraoxonases and phosphotriesterases**

Chair: Joel L. Sussman

- 8:30
KN-01 **An Unusual α/β Hydrolase Fold Enzyme from an Antarctic Bacterium**
Joel L. Sussman
- 9:00
OR-01 **Phosphotriesterase catalyzed synthesis of chiral precursors to antiviral prodrugs**
Frank Raushel
- 9:20
OR-02 **Disentangling the mechanism underlying the covalent MSF-AChE adduct formation and evolvment: mechanistic insights into an aged-like inactive complex susceptible to reactivation by a combination of nucleophiles**
Jure Stojan, Alessandro Pesaresi, Anže Meden, Dorian Lamba
- 9:40
OR-03 **Acetylcholinesterase dynamics determine the potency and selectivity of inhibitors targeting disease-transmitting mosquitoes**
Anna Linusson Jonsson, Rashmi Kumari, Cecilia Lindgren, Rajendra Kumari, Nina Forsgren, David Andersson, Fredrik Ekström
- 10:00
OR-04 **Structure and dynamics of hAChE and oxime interactions in structure-based design of novel uncharged bis-oxime reactivators**
Andrey Kovalevsky, Oksana Gerlits, Thibault Alle, Carlo Ballatore, Zoran Radic

Monday – Late morning Lectures, Monday, Sep 16 2024, 10:45–12:35

Session: **Session II – Interactions of cholinesterases (AChE and BChE) with substrates, inhibitors and reactivators**

Chair: Zrinka Kovarik

- 10:45
KN-02 **Evaluating cholinesterase's interactions with inhibitors and potent reactivators towards efficient treatment in organophosphate poisoning**
Zrinka Kovarik, Dora Kolić, Tena Cadez, Goran Šinko, Nikolina Maček Hrvat
- 11:15
OR-05 **Towards the fourth generation of effective uncharged bis-oxime reactivators of organophosphate-inhibited human AChE.**
Andrey Kovalevsky, Thibault Alle, Oksana Gerlits, Nikolina Maček Hrvat, Carlo Ballatore, Zrinka Kovarik, Zoran Radic

- 11:35
OR-06 **Development and therapeutic potential of uncharged cholinesterase re-activators**
José Dias, Ludovic Jean, André-Guilhem Calas, Nicolas Probst, Julien De Sousa, Nicolas Lamassiaude, Christophe Landry, Ophélie Da Silva, Anissa Braiki, Camille Voros, Romulo Araoz, Caroline Coisne, Charlotte Courageux, Pierre Warnault, Franck Razafindrainibe, Anne-Julie Gastellier, Julien Gasnot, Yerri Jagadeesh, Marilène Trancart, Anne-Sophie Hanak, Fabien Gosselet, Xavier Brazzolotto, Marie-Pierre Dehouck, Florian Nachon, Denis Servent, Pierre-Yves Renard, Rachid Baati
- 11:55
OR-07 **Direct Determination of the hydrolysis of a poor substrate by human plasma**
Jure Stojan
- 12:15
OR-08 **Inhibition of human butyrylcholinesterase by A-series nerve agents, functional and structural characterization**
Charlotte Courageux, Anne-Julie Gastellier, Milica Denic, Fabrice Modeste, Nicolas Taudon, José Dias, Florian Nachon, *Xavier Brazzolotto*
- 12:25
OR-09 **Inhibition kinetics of cholinesterases from various species by the organophosphate CBDP in vitro**
Gabriele Horn, Franz Worek

Monday – Afternoon Lectures, Monday, Sep 16 2024, 14:00–15:50

Session: **Session III – Post exposure organo phosphates strategies and toxicology**

Chair: Ondrej Soukup

- 14:00
KN-03 **Novichok class of organophosphorus compounds and the efficacy of current countermeasures against A-234**
Ondrej Soukup, Daniel Jun
- 14:30
OR-10 **How to increase bioavailability and follow effect of charged oximes in the central nervous system?**
Kamil Musilek, David Malinak, Eliska Prchalova, Rudolf Andrys, Adam Skarka, Zbynek Heger, Zenon Starcuk
- 14:50
OR-11 **Novel Strategies for Optimizing the Treatment of Organophosphate Poisoning in a Mouse Model**
Marilène Trancart, Anne-Sophie Hanak, Karine Thibault, Grégory Dal Bo, Alexandre Champault, Méliati Madi, Gwladys Meesemaecker, *André-Guilhem Calas*
- 15:10
OR-12 **Choline-O-acetyltransferase as a potential therapeutic target for nerve agent poisoning: unveiling an ion sensitive regulatory mechanism**
Fredrik Ekström, Nina Forsgren, Frida Jonsson, Cecilia Engdahl, Tomas Bergström

- 15:30
OR-13 **Investigation of neuroprotection conferred by a new therapeutic strategy after organophosphorus exposure**
Alexandre Champault, Julie Knoertzer, Armelle Rancillac, Grégory Dal Bo, Karine Thibault
- 15:40
OR-14 **Blood-brain barrier controlled-opening with ultrasound to improve neuroprotection after nerve agent exposure**
Lucie Lépinard, Sarah Leterrier, Laurene Jourdain, Karine Thibault, Anthony Novell, *Grégory Dal Bo*

Monday - Late afternoon Lectures, Monday, Sep 16 2024, 16:15-18:05

Session: **Session IV - Cholinesterase pharmacology, inhibitors and antidotes**

Chair: Palmer Taylor

- 16:15
KN-04 **Balancing central and peripheral nervous system antidotal actions of oxime reactivators to acetylcholinesterase inhibition**
Palmer Taylor, Kwok-Yiu Ho, Zoran Radic
- 16:45
OR-15 **Development of the post-exposure RS194B oxime against lethal sarin vapour and organophosphate insecticides in macaques**
Yvonne Rosenberg, Dennis Sullivan, Zoran Radic, Palmer Taylor
- 17:05
OR-16 **Detection of selective inhibitors of BChE in structurally and functionally different groups of molecules**
Anita Bosak, Ana Matošević, Marija Bartolić, Ines Primožič, Alma Ramić, Xavier Brazzolotto, Florian Nachon, Nikola Maraković
- 17:25
OR-17 **Bifunctional compounds serving as versatile cholinesterase reactivators**
Lukas Gorecki, Martina Hrabínova, Vendula Hepnarova, Jana Zdarova Karasova, Jan Korabecny
- 17:45
OR-18 **Attenuating organophosphate-induced neuroinflammation in mice by oxime therapy**
Nikolina Maček Hrvat, Katarina Ilić, Dora Kolić, Borna Puljko, Palmer Taylor, Kristina Mlinac Jerković, Svyetlana Kalanj Bogнар, Zrinka Kovarik
- 17:55
OR-19 **Design and Evaluation of Acetylcholinesterase Reactivators: A study of reactive oxime- and peripheral site-moieties**
Cecilia Springer Engdahl, Norman Hoster, Cecilia Lindgren, Nina Forsgren, Frida Jonsson, Timo Wille, Franz Worek, Anna Linusson Jonsson, Fredrik Ekström

Tuesday – Morning Lectures, Tuesday, Sep 17 2024, 8:30–10:30

Session: **Session V – Paraoxonase, butyrylcholinesterase and phosphotriesterase role in detoxication, biotechnology and diseases**

Chair: Eugenio Vilanova

- 8:30
KN-05 **The thin line between substrates or inhibitors: OP-enzymes interactions for biology, toxicity, diagnosis or applications.**
Eugenio Vilanova, Cermen Estevan, Antonio Monroy-Noyola, Miguel A Sogorb, Jorge Estévez
- 9:00
OR-20 **The influence of single nucleotide polymorphisms and substrate type on individual enzyme-kinetic rate constants for human plasma PON1**
Boštjan Petrič, Aljoša Bavec, Marko Goličnik
- 9:20
OR-21 **Albumin-copper complex hydrolyses chiral organophosphate compounds as a true A-esterase**
Antonio Monroy-Noyola, Laura Ramirez Gonzalez, Damianys Almenares-Lopez, Elizabeth Undiano, Eugenio Vilanova
- 9:40
OR-22 **Special behavior of cholinesterase interactions among thiocholine and phenyl carboxyl ester as substrates and inhibitors: Implication for research applications.**
Jorge Estévez
- 10:00
OR-23 **PON-1 arylesterase activity in older patients with mild cognitive impairment, late onset Alzheimer’s disease or vascular dementia**
Gianmarco Mola, Raffaella Riccetti, Valentina Rosta, Alessandro Trentini, Carlo Cervellati
- 10:10
OR-24 **Regulatory mechanism and functional impact of post-translational modifications on human paraoxonase 2**
Nagendra sai kumar Achanta, Eros A. Lampitella, Maria Marone, Elena porzio, Giuliana Catara, Giuseppina Lacerra, Giuseppe Manco
- 10:20
OR-25 **Validation and application of two AChE-targeted environmental neurotoxic pollutants detection systems**
Ruihong Zhu, Jiahui An, Heidi QH Xie, Antonio Zandona, Tena Cadez, Zrinka Kovarik, Yangsheng Chen, Li Xu, Bin Zhao

Wednesday - Morning Lectures, Wednesday, Sep 18 2024, 8:30-10:20

Session: **Session VI - Translational research of inhibitors of cholinesterases and paraoxonases**

Chair: Florian Nachon

- 8:30
KN-06 **Pharmaceutical development of plasma butyrylcholinesterase: a breakthrough in the treatment of nerve agent intoxications**
Florian Nachon, Anne Christine Mendes, Aurélie Nervo, Xavier Brazzolotto, Chloé Reymond, Nicolas Doisne, Moussa Kenawi, Janek Bzdrenga, Fabien Chantegreil, Méliati Madi, Thomas Soiro, Nicolas Taudon, Nicolas Belverge, Aurelie Servonnet, Fanny Magisson, Nina Jaffré, Julien Bouix, Rachel Haus, Catherine Verret, Frédéric Dorandeu
- 9:00
OR-26 **Selective butyrylcholinesterase inhibition induces antidepressant, pro-cognitive, and antianhedonic effects in a genetic animal model of depression: Role of acetylcholine, ghrelin, and dopamine**
Brian Harvey, Nadia Olivier, Stanislav Gobec, Mohammed Shahid, Urban Košak, Simon Žakelj, Christiaan Brink
- 9:20
OR-27 **Leveraging template effects of acetylcholinesterase for the development of new anti-Alzheimer drug candidates with multiple mechanisms**
Anna Sampietro, Wawrzyniec Haberek, Aina Bellver, Christian Griñán-Ferré, Belén Pérez, Carmen Pérez de la Lastra Aranda, Valle Palomo, Marina Naldi, Manuela Bartolini, María Isabel Loza, José Brea, Clara Bartra, Coral Sanfeliu, Christophe Morisseau, Raimon Sabate, Beste Ozaydin, Jordi Juárez-Jiménez, Bruce D. Hammock, Mercè Pallàs, Santiago Vázquez, *Diego Muñoz-Torrero*
- 9:40
OR-28 **A novel identification of anti-hypertensive drug spironolactone as an inhibitor of paraoxonase-2 lactonase activity**
Yoko Suzumoto, Eros A. Lampitella, Maria Marone, Giovambattista Capasso, Francesco Trepiccione, Giuseppe Manco
- 10:00
OR-29 **Development of pleiotropic prodrugs to treat Alzheimer's disease: from conception to in vivo evaluation**
Alice Wang, Valentin Travers-Lesage, Marc Since, Christophe Rochais
- 10:10
OR-30 **The selective butyrylcholinesterase inhibitor UW-MD-95 shows symptomatic and neuroprotective effects in a pharmacological mouse model of Alzheimer's disease**
Allison Carles, Matthias Hoffmann, Matthias Scheiner, Lucie Crouzier, Christelle Bertrand-Gaday, Arnaud Chatonnet, Michael Decker, *Tangui Maurice*

Wednesday - Late morning Lectures, Wednesday, Sep 18 2024, 10:45-12:35
Session: **Session VII - Multi-target-directed ligands in Alzheimer's disease primarily targeting cholinesterases**
Chair: Stanislav Gobec

- 10:45
KN-07 **Multi-target-directed ligands for potential symptomatic and disease-modifying treatment of Alzheimer's disease**
Svit Ferjančič Benetik, Damijan Knez, Urban Košak, Aleš Obreza, *Stanislav Gobec*
- 11:15
OR-31 **Advancing neocopride: a preclinical candidate multitarget directed-ligand (MTDL) for neurodegenerative disease intervention**
Christophe Rochais, Patrick Dallemagne
- 11:35
OR-32 **Cholinesterase-based inhibitors as multitarget small molecules for the therapy of Alzheimer's disease**
José Marco Contelles, Francisco López-Muñoz
- 11:55
OR-33 **Discovery of novel BChE inhibitors for cognitive improvement**
Baichen Xiong, Yuanyuan Wang, Weiting Zhang, *Haopeng Sun*
- 12:15
OR-34 **Development of dual pharmacophore models of acetylcholinesterase and human soluble epoxide hydrolase based on local co-solvent molecules distribution**
Weronika Bagrowska, Artur Góra
- 12:25
OR-35 **Pleiotropic prodrugs for both symptomatic and disease-modifying treatment of Alzheimer's disease**
Anže Meden, Neža Žnidaršič, Damijan Knez, Yuanyuan Wang, Ziwei Xu, Huajing Yang, Weiting Zhang, Anja Pišlar, Andrej Perdih, Simona Kranjc Brezar, Neža Grgurevič, Stane Pajk, Haopeng Sun, Stanislav Gobec

Wednesday - Afternoon Lectures, Wednesday, Sep 18 2024, 14:00-16:00
Session: **Session VIII - Functions of cholinesterases in different tissues**
Chair: Karl Wah-Keung Tsim

- 14:00
KN-08 **Acetylcholinesterase regulates inflammatory responses and pigmentation in skin epidermis**
Karl Wah-Keung Tsim
- 14:30
OR-36 **Characterizing Cardiac and Vascular Cholinesterases: From Molecular Insights to Therapeutic Prospects**
Dominika Dingová, Kristína Szmicseková, Matej Kučera, Lenka Bies Pivačková, Tibor Hodbod, Parsa Shafieikazerooni, Peter Křenek, Eric Krejci, Anna Hrabovska

- 14:50
OR-37 **Mice with inactive cholinesterases: new tools to evaluate cholinergic and non-cholinergic functions of AChE**
Eric Krejci
- 15:10
OR-38 **New perspectives on the effects of dioxin-like pollutants on acetylcholinesterase**
Heidi QH Xie, Guanglei Yang, Ruihong Zhu, Jiahui An, Yangsheng Chen, Li Xu, Bin Zhao
- 15:30
OR-39 **The cholinergic enigma of pigmented and Müller glial cells**
Paul G. Layer, Gesine Bachmann, Alex Bausch, Nicola Coronato, Gopenath Thangaraj
- 15:50
OR-40 **Acetylcholinesterase Reliefs Beta-Amyloid Plaque Burden via Enhancing Glial Activation in the Brain of 5xFAD Mouse**
Yingjie Xia, Xiaoyang Wang, Maggie Suisui Guo, Ran Duan, Tingxia Dong, Karl Wah-Keung Tsim

Poster Presentations

Monday – Poster Session, Monday, Sep 16 2024, 18:05–19:30

Session: **Poster Session**

- PO-01
B-01 **Target-guided synthesis of novel butyrylcholinesterase inhibitors**
Ines Primožič, Alma Ramić, Toni Divjak, Tomica Hrenar
- PO-02
B-02 **Capitalizing on human BChE-ligand complex structures for the design of BChE-specific reactivator against nerve agent intoxication**
Damijan Knez, Masa Zorman, Anne-Julie Gastellier, Charlotte Courageux, Janek Bzdrenga, José Dias, Xavier Brazzolotto
- PO-03
B-03 **Monoquaternary analogues of double charged K-oximes (K027, K048 and K203) are less effective reactivators of cholinesterases inhibited by organophosphates**
Zuzana Kohoutova, Rudolf Andrys, Kamil Musilek, David Malinak
- PO-04
B-04 **Halogenated pralidoxime analogues are efficiently reactivating cholinesterases**
Sara Rademacherova, Karolina Knittelova, Adela Fuchsova, Rudolf Andrys, Kamil Musilek, David Malinak
- PO-05
B-05 **Brominated oxime nucleophiles are efficiently reactivating cholinesterases inhibited by nerve agents**
Eliska Prchalova, Rudolf Andrys, Jaroslav Pejchal, Zuzana Kohoutova, Kamil Musilek, Jana Zdarova Karasova, David Malinak
- PO-06
B-06 **Importance of the shape of the linker between two quaternary pyridinium rings on reactivation process in oximes – in vitro and in silico study**
Tanos Celmar Costa Franca, Fernanda Georgia Figueiredo Taborda Barbosa, Joyce Sobreiro Francisco Diz de Almeida, Eugenie Nepovimova, Rafael Dolezal, Steven Laplate, Kamil Kuca
- PO-07
B-07 **Synthesis and in vitro assessment of the reactivation profile of clinical oximes on the acetylcholinesterase model inhibited by A-230 and A-242 nerve agents' surrogates**
Tanos Celmar Costa Franca, Samir Cavalcante, Daniel Kitagawa, Caio Borges, Marcelo Carneiro dos Santos, Pedro Buitrago, Roberto Souza, Antonio Luis Santos Lima, Leandro Bernardo, Kamil Kuca
- PO-08
B-08 **Synthesis, modeling and in vitro assessment of the reactivation profile of monocationic isatin-oximes hibrids on the acetylcholinesterase model inhibited by nerve agents' surrogates**
Tanos Celmar Costa Franca, Amanda Moraes, Samir Cavalcante, Dipanjan Bhattacharyya, Steven Laplate, Joyce Sobreiro Francisco Diz de Almeida, Pat Forgione

- PO-09
B-09 **Triazoles as potential reactivators of human acetylcholinesterase inhibited by the nerve agents VX and Novichok A-242**
Fernanda Pires, Pedro Buitrago, *Tanos Celmar Costa Franca*, Samir Cavalcante, Joyce Sobreiro Francisco Diz de Almeida
- PO-10
B-10 **Beyond carbamates: N-substituted piperidine ureas as butyrylcholinesterase inhibitors**
Peter Mastnak-Sokolov, Urban Košak, Damijan Knez, Svit Ferjančič Benetik, Anja Pišlar, Xavier Brazzolotto, Stanislav Gobec
- PO-11
B-11 **Piperidine-carboxamides, -sulfonamides and -carbamates as selective butyrylcholinesterase inhibitors**
Urban Košak, Damijan Knez, Anže Meden, Simon Žakelj, Jurij Trontelj, Jure Stojan, Maja Zakošek Pipan, Kinga Sałat, Florian Nachon, Xavier Brazzolotto, Gregor Majdič, Stanislav Gobec
- PO-12
B-12 **In vitro reactivation screening of A-234-inhibited human recombinant acetylcholinesterase and butyrylcholinesterase**
Martina Hrabínova
- PO-13
B-13 **Computational investigation of hardwickic acid-derived amides using molecular docking and prediction of ADME/Tox properties as potential inhibitors of cholinesterase enzymes**
Rayssa Ribeiro, Franco Leite, Gessica Mendes, *Fernanda Georgia Figueiredo Tabora Barbosa*, Samir Cavalcante, Marcelo Carneiro dos Santos, Tanos Celmar Costa França, Valdir Veiga-Junior
- PO-14
B-14 **Modeling studies and experimental evaluation of the reactivation potential of oximes K027, K048, K170 and K203 against the nerve agent A-242**
Daniel de Jesus de Oliveira, Fernanda Diniz Botelho, *Fernanda Georgia Figueiredo Tabora Barbosa*, Kamil Kuca, Steven Laplate, Samir Cavalcante, Marcelo Carneiro dos Santos, Tanos Celmar Costa França
- PO-15
B-15 **Novichok A-232: basic knowledge of biochemical and toxicological properties**
Daniel Jun, Martina Hrabínova, Lubica Muckova, Jakub Opravil, Dominik Krupka, Alzbeta Dlabkova
- PO-16
B-16 **Reactivation potency of GB, VX and A-234-inhibited human recombinant acetylcholinesterase in vitro and in silico**
Jakub Opravil, *Jakub Fibigar*, Zbyněk Večeřa
- PO-17
B-17 **Exploring drug modality switch from in situ assembly to reversibility: reversible modulators of choline O-acetyltransferase activity**
Nina Forsgren, Frida Jonsson, Marcus Carlsson, Robin Afshin Sander, Cecilia Springer Engdahl, Daniel Wikteliuss, Christopher Öberg, Fredrik Ekström

- PO-18
B-18 **Kinetic and structural evidence for specific DMSO interference with reversible binding of uncharged bis-oximes to hAChE and their reactivation kinetics of OP-hAChE.**
Dora Kolić, Nichole Joiner, Oksana Gerlits, Andrey Kovalevsky, Zoran Radic
- PO-19
B-19 **Outlining the A-series of organophosphorus compounds – cholinesterase inhibition, reactivation, cytotoxicity**
Nikolina Maček Hrvat, Dora Kolić, Tena Cadez, Goran Šinko, Zrinka Kovarik
- PO-20
B-20 **Evaluation of resveratrol compounds as therapeutics in organophosphorus poisoning**
Tena Cadez, Milena Mlakić, Nikolina Maček Hrvat, Irena Škorić, Zrinka Kovarik
- PO-21
B-21 **Neuroprotective role of CNS-active uncharged bis-oxime antidotes in mice exposed to organophosphate compounds**
Dora Kolić, Nikolina Maček Hrvat, Zrinka Kovarik, Zoran Radic
- PO-22
B-22 **Synthesis of broad-spectrum antidotes to organophosphorus neurotoxins**
Estelle Beaupparain, Karine Porte, Pierre-Yves Renard, Ludovic Jean
- PO-23
B-23 **Bis-pyridinium mono-aldoxime K203: a promising prophylactic cholinesterase reactivator for organophosphate poisoning.**
Syed Nurulain, Zarish Riaz, Huba Kalasz, Sajid Mehmood, Kamil Kuca
- PO-24
B-24 **A-agents: more resistant than expected? Biomarker detection in biological matrices**
Lukáš Prchal, Alzbeta Dlabkova

Tuesday – Poster Session, Tuesday, Sep 17 2024, 11:00–12:35

Session: **Poster Session**

- PO-25
B-01 **PON1 gene polymorphisms and inflammatory markers in organophosphate pesticides cohorts from Cameroon and Pakistan**
Leonel Javeres Mbah Ntepe
- PO-26
B-02 **Screening and Characterization of Inhibitors for the Recombinant Variant of Paraoxonase 1**
Neja Žnidaršič, Janez Smerkolj, Jure Stojan, Aljoša Bavec, Marko Goličnik
- PO-27
B-03 **Exploring the Impact of Lanthanide (III) Ions on the Function of Paraoxonase 1 (PON1)**
Janez Smerkolj, Jure Stojan, Aljoša Bavec, Marko Goličnik
- PO-28
B-04 **PON1 plasma activity in the aftermath of bariatric metabolic surgery: the benefits of investigating more than one substrate**
Boštjan Petrič, Aljoša Bavec, Tadeja Pintar, Živa Mesarič

- PO-29
B-05 **Recombinant human paraoxonase-1 variants depict hydrolyzing capabilities of A-series nerve agents in vitro**
Janek Bzdrenga, Prakash Khandave, Thomas Soiro, Nicolas Belverge, Nicolas Taudon, Florian Nachon, Xavier Brazzolotto, Abhay H. Pande
- PO-30
B-06 **Copper-dependent stereoselective hydrolysis of O-hexyl O-2,5-dichlorophenyl phosphoramidate by recombinant serum albumins**
Laura Ramirez Gonzalez
- PO-31
B-07 **Update of ESTHER, the database and server dedicated to the analysis of protein and nucleic acid sequences within the superfamily of cholinesterase relative**
Arnaud Chatonnet, Zhou Yu, Nicolas Roche, Pascale Marchot
- PO-32
B-08 **In silico evaluation of the anticholinesterase activity of triazole fungicides**
Goran Šinko
- PO-33
B-09 **Cholinesterase monitoring for nerve agent exposure**
Nick Coe, Jennifer Dawson, Georgia Smith, Sarah Goodchild
- PO-34
B-10 **Immobilization of cholinesterases on magnetic microparticles for enhanced stability and biosensing applications**
Rudolf Andrys, Charline Monnier, Veronika Mickova, Louise Nemery, Evica Antonijevic, Kamil Musilek, Lucie Zemanova
- PO-35
B-11 **Highly potent and selective butyrylcholinesterase inhibitors for cognitive improvement and neuroprotection**
Baichen Xiong, Zuoaoyun Song, Haopeng Sun
- PO-36
B-12 **Detection of butyrylcholinesterase signal peptide in human brains**
Jacek Jasiocki, Andrew Reid, Meghan Cash, Monika Targońska, Bartosz Wasqg, Sultan Darvesh
- PO-37
B-13 **Impact of Type 1 Diabetes Mellitus on Butyrylcholinesterase Expression and Activity in Rats**
Tibor Hodbod, Lukas Nemet, Katarina Hadova, Anna Hrabovska
- PO-38
B-14 **Expression of cholinesterases in rats**
Lukas Nemet, Tibor Hodbod, Monika Zelinová, Anna Hrabovska
- PO-39
B-15 **Investigating the Link between Butyrylcholinesterase and Pulmonary Vascular Disease in Rats**
Parsa Shafieikazerooni, Monika Zelinová, Jana Veteskova, Eva Velasova, Tibor Hodbod, Peter Krenek, Anna Hrabovska
- PO-40
B-16 **Acetylcholinesterase and muscarinic receptors control the ultraviolet-mediated release of melanosomes in cultured melanoma**
Maggie Suisui Guo, Yingjie Xia, Jiahui Wu, Xiaoyang Wang, Gary Ka Wing Yuen, Tingxia Dong, Karl Wah-Keung Tsim

- PO-41
B-17 **Trehalose restores the tacrine-induced endoplasmic reticulum stress in cultured neuronal cells**
Xiaoyang Wang, Yingjie Xia, Maggie Suisui Guo, Jiahui Wu, Tingxia Dong, Karl Wah-Keung Tsim
- PO-42
B-18 **The Muscarinic Acetylcholine Receptor in Dermal Papilla Cells Regulates Hair Growth**
Gary Ka Wing Yuen, Tingxia Dong, Daniel Ye, Ajjaikebaier Dilidaer, Karl Wah Keung Tsim
- PO-43
B-19 **The Regulatory Role of Gut Microbiota in Expression of AChE in Epithelial Cells: a Regulator of Inflammatory Bowel Disease**
Ajjaikebaier Dilidaer, Yingjie Xia, Jiahui Wu, Tingxia Dong, Karl Wah-Keung Tsim
- PO-44
B-20 **Studying the Expression and Regulation of AChE in Multiple Cancers Using Data-Driven Approach**
Jiahui An, Heidi QH Xie, Ruihong Zhu, Guanglei Yang, Yangsheng Chen, Li Xu, Bin Zhao
- PO-45
B-21 **Advances in the development of new drugs against Alzheimer's disease based on tacrine scaffold**
Martin Novák, Vajrychova Marie, Volker M. Lauschke, Ondrej Soukup
- PO-46
B-22 **Synthesis of a multifunctional compound targeting neuroinflammation and cholinergic deficit in Alzheimer's disease**
David Malinak, Zuzana Kohoutova, Miroslav Psoška, Karolina Knittelova, Rudolf Andrys, Kamil Musilek, Stanislav Gobec
- PO-47
B-23 **Dual inhibitors targeting BChE and p38 α MAPK: a novel strategy for Alzheimer's disease therapy**
Svit Ferjančič Benetik, Aleš Obreza, Urban Košak, Damijan Knez, Stanislav Gobec
- PO-48
B-24 **Berberine in comparison to 7-MEOTA for Alzheimer's treatment: a poly-pharmacological approach**
Syed Nurulain, Areeba Kiran, Sidra Batool, Sosan Khan, Huba Kalasz, Sajid Mehmood, Kamil Kuca
- PO-49
B-25 **Novel amiridine-based multi-target directed ligands for the Alzheimer's disease treatment**
Jan Konecny, Eva Mezeiova, Martin Horak, Galina Makhaeva, Jan Korabecny
- PO-50
B-26 **Investigating the effects of basketball and volleyball as team sports on social cognitive function and BDNF and cholinesterase levels in young men and women**
Muslum Gok, Halil Ates, Ergul Cansu incegil, Serkan Aksu

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B-27

Design of AChE reactivators using versatile molecular platforms and nanodiamonds

Yevgen Karpichev, Illia Kapitanov, Denys Bondar, Vadym Mochalin

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