EPHAR2024

The Federation of European Pharmacological Societies

9th European Congress of Pharmacology

EEJ EPHAR

23-26 June 2024



ATHENS GREECE

Megaron Athens International Conference Centre

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ABSTRACT BOOK

PP199. Investigation of antialzheimer and antiangiogenic activities of donepezil hydrochloride loaded PLGA nanoparticle (NP) systems by in vitro AchE and BuChE inhibitor activity analyzes and in vivo CAM method

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Introduction: NPs with unique physicochemical and biological properties, are taken more easily by the cells than larger molecules; therefore, they can be used effectively as a drug delivery system (DDS). The most important reasons for the use of NPs as a DDS include prolonged release of encapsulated drug, increasing drug's therapeutic efficacy and reducing side effects [1]. For this purpose, PLGA-NPs were prepared in this study to increase the effectiveness of donepezil hydrochloride (DNP).

Methods: DNP loaded PLGA-based-NPs were prepared by the 'Double Emulsification Solvent Evaporation' method. The I-DNP coded formulation was selected as optimum and solid-state characterizations were performed with DSC, FT-IR and ^{1}H-NMR [1]. After the characterization of I-DNP in terms of pharmaceutical technology (particle size, PDI, zeta potential, EE% and release) was completed, the Ellman Test was used to determine the acetylcholinesterase (AchE) and butyrylcholinesterase (BuChE) enzyme inhibition activity. In vivo CAM assay was used to study the effect of I-DNP on angiogenesis [1,2].

Results: Encapsulation was proven by DSC, FT-IR, and ^{1}H-NMR. According to the AChE and BuChE inhibitor activity results, I-DNP showed strong anti-AChE activity with 96.88±0.16% inhibition at 400 µg/mL concentration and strong anti-BuChE activity with 82.96±0.57% inhibition at a concentration of 400 µg/mL. According to the in vivo CAM results, I-DNP showed anti-angiogenic effect by significantly inhibiting capillary vessel development at a concentration of 10 µg/pellet, compared to the blank (2.5% agarose) and I-Blank coded formulation. Depending on the decrease in capillary area, the activity order was determined as I-DNP>DNP>Blank formulation. Total capillary area was determined as 14.702%±3.395, 17.982%±2.595, and 20.362%±3.353 for I-DNP, DNP, and blank formulation, respectively.

Conclusion: According to the anti-alzheimer activity results, I-DNP showed strong anti-AChE and anti-BuChE activities compared to DNP, which is an acetylcholinesterase inhibitor. Within vivo CAM experiments, it was determined that the I-DNP coded formulation attenuated (reduced/inhibited) angiogenesis and it was concluded that the prepared NP system could be a new anti-angiogenic treatment by stimulating the cholinergic system. This study was financed by Anadolu University Scientific Research Project Foundation (No:2304S027).

[1] Öztürk AA, Kıyan HT. Treatment of oxidative stress-induced pain and inflammation with dexketoprofen trometamol loaded different molecular weight chitosan nanoparticles: Formulation, characterization and anti-inflammatory activity by using in vivo HET-CAM assay. Microvasc Res. 2020;128:103961.
[2] Kıyan HT, Demirci B, Başer KHC, Demirci F. The in vivo evaluation of anti-angiogenic effects of Hypericum essential oils using the chorioallantoic membrane assay. Pharm Biol. 2014;52(1):44-50.

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Welcome Address

Welcome Letter

The **Federation of European Pharmacological Societies** (EPHAR) consists of 29 member societies that collectively have a total of 12,000 individual members across Europe. Eight years after its last in person Congress, EPHAR will welcome pharmacologists from Europe and the world from **June 23-26, 2024** at the **Megaron Athens International Conference Center**, in downtown Athens. We look forward to hosting a diverse crowd of students, early career researchers, as well as late stage accomplished professionals and world-leading authorities. We anticipate the active participation of basic and clinical pharmacologists from academia, as well as biotech innovators and pharma industry scientists.

There is a number of opportunities to get involved with EPHAR2024. We will be accepting abstracts submissions for oral communications and poster presentations until December 2023 and we invite proposals for satellite meetings until January 2024. The scientific sessions at EPHAR2024 include keynote lectures, round tables, panel discussions, workshops, as well as oral and poster sessions, where you can share your expertise and experiences with other attendees. The conference presents a unique opportunity for intra- and interdisciplinary cross-fertilization of ideas and incorporation of new approaches in all areas of drug discovery and development from target identification and validation to clinical science.

We are looking forward to welcoming you to Greece a country famed for its history, its natural beauty and its hospitality. You will be able to taste some of Greece' s ancient and modern culture, while catching up with friends and colleagues, in the events in our social program.

With Best Wishes,



Andreas Papapetropoulos, PhD
EPHAR President

Organizers

About EPHAR

Established in 1990, **the Federation of European Pharmacological Societies**, a non-profit association, set as its mission to advance research and education in Pharmacology and related sciences and to promote co-operation between National/Regional Pharmacological Societies in Europe and surrounding countries. Fundamental principle of EPHAR is that nothing done by, or in the name of, the federation shall detract from autonomy of any of the participating societies. As to achieve its objects, the Federation undertakes the follow actions:

- ✓ Hold and arrange instructional courses and training programs in matters connected with pharmacology;
- ✓ Facilitate the exchange of scientific information between European pharmacologists by encouraging the holding of joint meetings between European member societies and by other appropriate means, like the periodical European congresses of pharmacology;
- ✓ Collect, disseminate information and encourage the participation to important activities organized by member societies. This will include the production of a calendar of the National and joint meetings of each European society;
- ✓ Establish common standards for basic courses in pharmacology;
- ✓ Encourage scientific collaboration between member societies by appropriate means.

About HSBCP

The Hellenic Society of Basic and Clinical Pharmacology is a non-profit scientific society which, for the last three decades, has been supporting the dissemination and advancement of the science of Pharmacology in Greece. The Society's aims include informing, supporting, and promoting scientists in the fields of basic and clinical pharmacology, be it at research or service providing level, as well as the promotion of scientific associations and collaborations, in Greece and abroad.

The Society organizes congresses, meetings and seminars and participates actively in international scientific events concerning Pharmacology in general, taking particular consideration of its younger scientist - members.

The Society is a full member of the Federation of European Pharmacological Societies (EPHAR), the International Union of Basic and Clinical Pharmacology (IUPHAR) and the European Association for Clinical Pharmacology and Therapeutics (EACPT), with official representation in working groups and executive committees.

The Society believes at the great potential of the science of Pharmacology and of its contribution to national development, while it welcomes the support and contribution of all interested parties in achieving its aims.



POSTER SESSIONS

Poster Session I (001 – 099) | Monday June 24th , 12:45-13:45

Poster Session II (100 – 204) | Tuesday June 25th , 12:45-13:45

Poster Session III (205 – 313) | Wednesday June 26th , 09:00-10:30

PP195. Unveiling Human Lung Fibroblast Exosomes as Curcumin and Doxorubicin Nanocarriers for Cancer Therapeutics
Saiti A[1], Giannopoulos-Dimitriou A[1], Panteris E[2], Malousi A[3], Stamoula E[4], Anagnostopoulos A[4], Vatsellas G[5], Al-Maghrabi P[6], Chatzopoulou F[7], Müllertz A[6], Tseti I[8], Fatouros D[9], Vizirianakis I[1,10]

PP196. Systems Pharmacology and Network Analysis to Advance Pharmacogenomics and Precision Medicine Decisions in Type-2 Diabetes Therapy
Giannopoulos-Dimitriou A[1], Saiti A[1], Kazakos I[1], Galatou E[2], Vizirianakis I[1,2]

PP197. Characterization of the Effects of Jmv2894, a Synthetic Growth Hormone Secretagogue, in a Cellular Model of Duchenne Muscular Dystrophy
Bresciani E[1], Rizzi L[1], Meanti R[1], Cappellari O[2], Mantuano P[2], Conte E[2], Boccanegra B[2], Liantonio A[2], Denoyelle S[3], Fehrentz J-A[3], Locatelli V[1], De Luca A[2], Torsello A[1]

PP198. Semaglutide significantly increases cell viability and ameliorates lipid accumulation in an in vitro model of MASLD
Petrovic A[1], Hefer M[1], Omanovic Kolaric T[1], Kuna Roguljic L[1], Kizivat T[2], Matic A[1], Smolic R[1], Vcev A[1], Smolic M[1]

PP199. Investigation of antialzheimer and antiangiogenic activities of donepezil hydrochloride loaded PLGA nanoparticle (NP) systems by in vitro AchE and BuChE inhibitor activity analyzes and in vivo CAM method
Kömür M[1], Kıyan H[2], **Öztürk A**[1]

PP200. Effect of DMTS via the TRPA1 ion channel in acute stress in mouse model
Göntér K[1], **Pozsgai G**[1,2]

PP201. Melatonin Boosts Anti-Cancer Immunity in Pancreatic Adenocarcinoma by Modulating Tumor-Related Neutrophil Infiltration and NETosis
Wang N[1], Tan H[2]

PP202. Novel synthesized Coumarin derivate in airway smooth muscle
Elshani A[1], Sopi R [2], Haziri A[2], Thaçi Q [2], Sylqa A[1], Daci A [3], Zogu M [3]

PP203. The soluble form of PD-L1 is a valuable biomarker in COVID-19
Conti V[1,4], Francesco S[1,2], Pagliano P[1,3], Carmine S[4], Berenice S[5], Graziamaria C[5], Valentina M[4], Emanuela D[6], Liguori L[7], Stefano P[1,2], Amelia F[1,4]

PP204. Receptor Protein Tyrosine Phosphatase zeta 1 (RPTPZ1) pharmacological inhibition or deletion regulates osteoblasts activities in vitro and bone homeostasis in vivo
Xanthopoulos A[1], Lamprou M[1], Kastana P[1], Giannoutsou P[2], Barounis F[2], Mourkogianni E[1], **Orkoula M**[2], Papadimitriou E[1]