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ABSTRACT BOOK

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SESSION-XII	Oral presentations
Chairperson: Prof. Dr. Ufuk Koca Çalışkan	
09:35-09:42	O20 **N. Yağmur Diker** *"Evaluation of secondary metabolite profiling in five Ulmus species with untargeted metaolomics study"*
09:42-09:49	O21 **Tuğçe Dikpınar** *"LC-MS/MS analysis and biological activities of endemic Achillea sieheana stapf from Turkey"*
09:49-09:56	O22 **Çiğdem Kahraman** **"***Acetylcholinesterase inhibitory potential and metabolic profile of Bolboschoenus maritimus (L.) palla"*
09:56-10:03	O23 **Gökşen Dilşat Durbilmez** **"** *Isolation of silk protein and synthesis/characterization of hybrid nanoflowers***"**
10:03-10:10	O24 **Semih Bulut** *"The problem of pyrrolizidine alkaloid in herbal tea used in children's gas pain"*
10:10-10:17	O25 **Burak Temiz** *"Evaluation of radical scavenging activity and tyrosinase inhibition of some Citrus species cultivated in Turkey via spectrophotometric methods and HPTLC-effect directed analysis"*
10:17-10:24	O26 **Şüheda Rumeysa Osmanlioğlu Dağ** **"***Composition and antimicrobial activity of the essential oils of five different Artemisia L. Species"*
10:24-10:31	O27 **Zekiye Ceren Arituluk** *"Neuroprotective effects of selected Salvia species from Turkey in paraquat-induced Parkinson's disease Drosophila model"*
10:31-10:38	O28 **Joanna Kowalczyk** *"Scoparone – a compound of liquors containing Artemisia species influence on emotional state evaluated in Swiss mice"*
10:38-10:45	O29 **Tuğbanur Tüysüz** *"In vivo and in vitro anti-Inflammatory potentials of Abies cilicica (Ant. & Kotschy) Carr. subsp. Isaurica Coode & Cullen essential oil: a potential active pharmaceutical ingredient (Api) for topical drug delivery systems"*
10:45-10:50	Discussion part of SESSION XII (Part 1)
Chairperson: Prof. Dr. Gonca Çakmak	
10:50-10:57	O30 **Esra Şumlu** *"Dietary fructose and kefir supplementation change the composition of fecal microbiota in the rats"*
10:57-11:04	O31 **Sahika Guner** *"The comparison of vascular endothelial and smooth muscle cells co-culturing in hydrogel-base and bio-printing 3D-cell-culture systems"*
11:04-11:11	O32 **Nur Banu Bal** *"The effect of 4-phenylbutyric acid on the hypertension induced cardiac stress responses"*
11:11-11:18	O33 **Seçkin Engin** *"Trimetazidine attenuates cyclophoshamide-induced cystitis in mice by inhibiting TLR4/NFκB signaling pathway"*
11:18-11:25	O34 **Roger Ortiz-Climent** *"Paraoxonase 1 status in psychiatric patients treated with psychotropic drugs"*

O29

IN VIVO AND IN VITRO ANTI-INFLAMMATORY POTENTIALS OF ABIES CILICICA (ANT. & KOTSCHY) CARR. SUBSP. ISAURICA COODE & CULLEN ESSENTIAL OIL: A POTENTIAL ACTIVE PHARMACEUTICAL INGREDIENT (API) FOR TOPICAL DRUG DELIVERY SYSTEMS

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Abies cilicica (Ant. & Kotschy) Carr. subsp. *isaurica* Coode & Cullen belonging to Pinaceae family, is endemic and native to Mediterranean region of Turkey [1]. The resin is known to have antiseptic, anti-inflammatory, antipyretic, antibacterial, and antiviral potentials [2]. In this study, we aimed to investigate the *in vivo* and *in vitro* anti-inflammatory potentials of *Abies cilicica* subsp. *isaurica* essential oil. The leaves were subjected to hydrodistillation to get essential oil for subsequent GC-FID/MS analysis. The *in vivo* and *in vitro* anti-inflammatory activities of the essential oil were evaluated by using *in vivo* HET-CAM method [3] and *in vitro* COX-1/COX-2 enzyme inhibitory assays [4]. *β*-Pinene(41.5%), *α*-pinene(12.9%) and intermedeol(10.6%) were found as the major compounds of the essential oil. At the concentration of 50 µg/pellet the oil showed strong *in vivo* anti-inflammatory activities with 75.8±0.3% inhibition value. The essential oil also exhibited significant *in vitro* COX-2 enzyme inhibitory potential with IC_{50} value of 83.3 µg/mL whereas no COX-1 inhibitory activity. Angiogenesis may become an effective therapeutic target in the discovery of more effective new bioactive plant derived natural angiogenesis inhibitors and anti-inflammatory agents including plant extracts, essential oils and their volatile compounds with less toxicity to treat angiogenesis originated pathologies such as cancer and inflammation. So, in the future stages of the study, different topical drug delivery systems will be designed and characterized by using the essential oil with anti-inflammatory potential as an API.

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Keywords

Abies cilicica subsp. isaurica essential oil, Anti-inflammatory, Topical drug delivery

References

[1] Davis PH (1967). Flora of Turkey and The Esat Aegean Islands, Vol 9, Edinburg University Press, Edinburg.
[2] Baytop T (1999). Treatment with Medicinal Plants in Turkey. The 2nd Ed. Nobel Publishing Houses, Istanbul, Turkey.
[3] Ozturk, A. A., Kiyan, H. T. (2020). 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. Microvascular Research, 128, 103961.
[4] Vázquez, M., Rosell, G., Pujol, M. (1997). Synthesis and anti-inflammatory activity of rac-2-(2,3-dihydro-1,4-benzodioxin)propionic acid and its R and S enantiomers. European Journal of Medicinal Chemistry, 32(6), 529–534.

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