
4th Annual Conference
New diagnostic and therapeutic tools against multidrug resistant tumours
Prague, Czechia
6-8 September 2021
STRATAGEM
CA17104
cost
EUROPEAN COOPERATION
IN SCIENCE & TECHNOLOGY
Funded by the Horizon 2020
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of the European Union

Day 1 Monday, 6th September 2021

8:30 – 8:50	**Registration**	
8:50 – 9:00	**Opening ceremony**	
8:50	Javier De Las Rivas	Co-chair of Action, University of Salamanca, Spain
8:55	Ondrej Uhlik	Head of the Department of Biochemistry and Microbiology, UCT Prague, patronage organization

9:00 – 12:35	**Section I**	**Chair: Thomas Mohr**
9:00	**Virtual screening of large chemical databases with AI**	**Asan Agibetov** (Austria)
10:00	Protein-drug networks based on pharmacogenomic data: unraveling the targets of anticancer drugs	Alberto Berral-González (Spain)
10:20	Oxidative stress parameters can predict the response to erythropoiesis-stimulating agents in myelodysplastic syndrome patients	Ana Cristina Gonçalves (Portugal)
10:40	**Coffee break**	
11:20	Emerging targets and small molecule drug candidates to overcome cancer therapy resistance	Wolfgang Link (Spain)
11:40	Carboplatin-induced TUBB3 expression differently impacts mesenchymal-like ovarian cancer cells fate upon drug treatment	Anamaria Brozovic (Croatia)
12:00	Characterization of DNA repair genes in ovarian cancer patients with regard to chemoresistance status	Karolina Šeborová (Czech Republic)
12:20	New label-free approaches for analysis of cell structure and growth	Lenka Šídová (Sven Biolabs)

12:45 – 14:00	**Lunch**	

14:00 – 16:35	**Section II**	**Chair: Catherine Passirani**
14:00	Biocompatible gold nanoparticles for therapeutic applications	Bertrand Philippe (France)
14:20	Dual Kinase & Topoisomerase I Inhibitors to Overcome Multidrug Resistant Cancers	Cooney Louise (Ireland)
14:40	In vitro evaluation of acute and chronic liver tox-icity of lipid nanocapsules: what formulation for a better biocompatibility?	Delaporte Flavien (France)
15:00	Drugs activation for the discovery and development of new targeted chemotherapeutic formulations	Hadjikakou Sotiris (Greece)
15:20	**Coffee break**	
16:00	Modulation of cancer-associated processes by multivalent glycomimetic inhibitors of galectin-3	Vlachova Miluse (Czech Republic)
16:20	CytoFLEX SRT- Avalanche Photo Diode based cell sorting made easy	Andreas Wicovsky (Beckman Coulter)

17:00 – 18:00	**CG meeting**	**Chair: Javier De Las Rivas**
19:00	**Dinner**	

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Day 2 Tuesday, 7th September 2021

9:00 – 12:55	Section III	Chair: Helena M. Vascondelos and Ana Bela Sarmento Ribeiro
9:00	**Repurposing an iron chelator: mitochondrially-targeted deferoxamine exhibits potent cytostatic, cytotoxic and migrastatic anti-cancer properties and induces mitophagy**	**Jaroslav Truksa** (Czech Republic)
10:00	Nischarin is expressed in pancreatic ductal adenocarcinoma and is a potential target for drug repurposing	Jelena Grahovac (Serbia)
10:20	Unveiling the role of ATF4 in metastatic breast cancer dormancy	Christiana Neophytou (Cyprus)
10:40	Coffee break	
11:20	Unravelling resistance mechanisms to proteasome inhibitors in multiple myeloma	Raquel Alves (Portugal)
11:40	Structure-activity relationship of triple-action platinum(IV) prodrugs with albumin-binding properties and immunomodulating ligands	Isabella Poetsch (Austria)
12:00	Robotic platform for testing of multidrug resistance modulators	Jitka Viktorova (Czech Republic)
12:20	Cancer Organoids-on-a-Chip as a tool for drug screening in platinum resistant ovarian cancer	Enrico Cavarzerani (Italy)
12:40	Exploring Protein Dynamics within the RAS-RAF-MEK-ERK Pathway with NanoBRETTM – Applications for Drug Discovery	Erik Bonke (Promega)

13:00 – 14:00	Lunch

14:00 – 17:20	Section IV	Chair: Simona Saponara and Ivanka Tsakovska
14:00	**Cardio-oncology: cardiovascular effects of the anti-tumor treatment, diagnosis and management**	**Radek Pudil** (Czech Republic)
15:00	**PARP inhibition: from idea to registration - A personal perspective**	**Zdenek Hostomský** (Czech Republic)
16:00	Coffee break	
16:40	Predictive in silico off-target profiling for the H2S-releasing doxorubicin derivative Sdox	Miguel X. Fernandes (Spain)
17:00	Recent progress in the synthesis of ciprofloxacin derivatives as a new therapeutic agents against multidrug resistant tumors	Ryszard Ostaszewski (Poland)

19:00	Dinner

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Day 3 Wednesday, 8th September 2021

9:00 – 12:55	Section V	Chair: Jitka Viktorova
9:00	**Horizontal transfer of mitochondria and mitochondrial respiration**	**Jiri Neuzil (Czech Republic)**
10:00	Natural products ingredients with metal ions for new efficient targeted chemotherapeutics	Banti Christina (Greece)
10:20	Predicting progression and recurrence using Deep Learning in small cancer cohorts and application of Explainable Machine Learning as a tool to elucidate resistance to therapy	Oscar González-Velasco (Spain)
10:40	Identifying Unique Molecular Targets to Use Novel Gene Group Based Shotgun Treatments in Malignant Pleural Mesothelioma	Preeta Ananthanarayanan (Italy)
11:00	**Coffee break**	
11:40 – 12:55	**Poster section**	

13:00 – 14:00	**Lunch**	
14:00 – 16:30	in parallel: **MC meeting / Poster section**	**Chair: Javier De Las Rivas**
15:00	**Coffee break**	
19:00	**Social event - Steamboat cruise, Closing ceremony**	

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Natural products ingredients with metal ions for new efficient targeted chemotherapeutics

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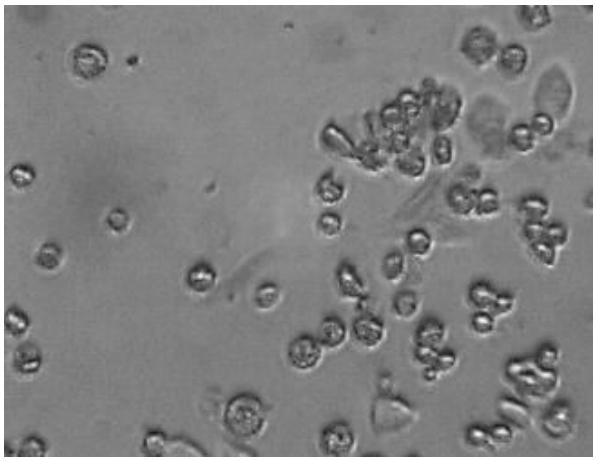
Abstract: Carvacrol, the main constituent of the essential oil of oregano possesses antiproliferative activity. The organoantimony derivative of formula [$Ph_3Sb(Carv)_2$] (**TPAC**) (CarvH= carvacrol) was synthesized and characterized in solid state by melting point, X-ray Fluorescence (XRF), Attenuated Total Reflection Furrier Transform Infra Red (ATR-FT-IR) spectroscopies, Thermogravimetric Differential Thermal Analysis (TG-DTA), Differential Scanning Calorimetry (DTG/DSC), while UV-Vis spectroscopy was used for the characterization in solution. The crystal structure of **TPAC** has been determined by X-ray crystallography.

The *in vitro* anti-proliferative activity of **TPAC** was evaluated against human breast adenocarcinoma cancer cell lines: MCF-7 (positive to hormones receptor (HR+)), MDA-MB-231 (negative to hormones receptor (HR-)). Its *in vitro* toxicity was checked against normal human fetal lung fibroblast cells (MRC-5). The *in vitro* genotoxicity of **TPAC** was tested on normal human fetal lung fibroblast cells (MRC-5) with the micronucleus (MN) assay using fluorescence microscopy. Moreover, the *in vivo* toxicity and genotoxicity of **TPAC** was tested by *Artemia salina* assay and *Allium cepa* assays. The MCF-7 cells morphology suggests apoptotic pathway for their death, especially though the mitochondrion damage, which was confirmed by DNA fragmentation, Acridine Orange/Ethidium Bromide (AO/EB) Staining and permeabilization of the mitochondrial membrane tests. The binding affinity of **TPAC** toward the calf thymus CT-DNA was *ex vivo* investigated by Uv-Vis, Fluorescence spectroscopies and viscosity measurements.



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