

CA17104 -STRATAGEM- NEW DIAGNOSTIC AND THERAPEUTIC TOOLS AGAINST MULTIDRUG RESISTANT TUMOURS – 29th-31st JANUARY 2019

SECOND MC MEETING & FIRST WG1-WG4 MEETING

MOLECULAR BIOTECHNOLOGY CENTER
VIA NIZZA 52, 10126, TURIN
ROOM: DARWIN

GROWING IDEAS THROUGH NETWORKS

This Action will build the first multidisciplinary network to include academic laboratories, research institutes, and small and medium enterprises (SMEs), with a wide range of excellent and non-overlapping expertise, that will aim to improve both the diagnosis and therapy of multidrug resistant (MDR) solid tumours.

We currently have only fragmented knowledge about the biomarkers and therapeutic tools that can be used against MDR tumours; there are no predictive/diagnostic algorithms for MDR tumours *ex ante* and all previous therapies against MDR tumours have failed. The key challenge of this Action is to fill these gaps, by producing a comprehensive, open and user-friendly platform of knowledge on MDR tumours by identifying new diagnostic/predictive biomarkers, and producing new, safe pharmacological tools that can be used for the personalised treatment of MDR tumours.

Up to 70% of solid tumours are resistant at diagnosis. This means poor life quality and poor prognosis for patients, and high management costs for European healthcare systems. This Action is working to improve the diagnosis and treatment of patients with MDR tumours and to reduce the costs of their management.

Finally, the Action aims to raise the level of European research on MDR, and reduce the disparity in research quality between EU countries and Inclusiveness target Countries (ITCs), providing the necessary training for European Early Career Investigators (ECIs) to grow as future independent research leaders, regardless of location, age or gender.

SCIENTIFIC AND LOCAL ORGANISATION COMMITTEE:

Roberta Fruttero - Chair (Italy)
Javier De Las Rivas Vice-Chair (Spain)
Thomas Mohr - WG1 leader (Austria)
Catherine Passirani – WG2 leader (France)
M. Helena Vasconcelos – WG3 leader (Portugal)
Simona Saponara –WG4 leader (Italy)
Milica Pesic – STSM coordinator (Serbia)
José M. Padrón – Scientific Communicator (Spain)
Chiara Riganti - MC member – (Italy)
Dale Lawson – Grant Holder Manager

TUESDAY 29TH JANUARY MC MEETING

14.00 - 14.15 - Registration (GH Manager – Dale Lawson)

14.15-14.30 Roberta Fruttero (Chair – Italy)
Opening Remarks and Welcome to MC members

14.30 - 15.30 Roberta Fruttero & Javier De Las Rivas
(Vice-Chair-Spain)
Adoption of the Agenda - Points 1-6 and 8-10

15.30 - 16.00 COST Association Representative - Point 7

16.00-16.30 *Coffee Break*

16.30 - 17.30 Core Group leaders:
Thomas Mohr - WG1 leader (Austria)
Catherine Passirani – WG2 leader (France)
M. Helena Vasconcelos – WG3 leader (Portugal)
Simona Saponara –WG4 leader (Italy)
Milica Pesic – STSM coordinator (Serbia)
José M. Padrón – Scientific Communicator (Spain)
Leaders role and discussion of Points 11-12

17.30 – 18.00 Roberta Fruttero & Javier De Las Rivas -
Point 13-16

Free evening

<p>WEDNESDAY 30TH JANUARY</p> <p>WORKING GROUP MEETING – day 1</p> <p>8.30-9.00 – Registration</p> <p>9.00 -9.45: Keynote lecture - Prof. Yehuda Assaraf (introduced by J.M. Padrón) Lysosomal biogenesis and exocytosis as a novel target to overcome cancer multidrug resistance + 15 minutes of discussion</p> <p>10.00-10.45: Keynote lecture – Prof. Paolo Caliceti (introduced by R. Fruttero) Novel supramolecular architectures for tumor targeting + 15 minutes of discussion</p> <p>11.00-11.30: Coffee break</p> <p>11.30-12.20: WG1 presentation (chair: WG1 vice-leader, A. Linē) 10 minutes/presentation</p> <p>11.30-11.40: Thomas Mohr (Austria) Weighted Gene Co-expression analysis in key driver and biomarker detection</p> <p>11.40-11.50: Javier De Las Rivas (Spain) Multiple targets of cancer drugs: construction and analysis of complex protein–drug bipartite networks</p> <p>11.50-12.00: Romano Silvestri (Italy) New anti-Cancer Agents through an Interaction with Tubulin</p> <p>12.00-12.10: Anamaria Brozovic (Croatia) Concomitant resistance to paclitaxel in an ovarian cancer cell variant selected with carboplatin</p> <p>12.10-12.20: Alexander Tolios (Austria) Application of machine learning algorithms to classify tissue samples using methylation patterns - a case study</p> <p>12.30-13.30: lunch break and one-to-one interaction</p> <p>13.30-14.30: poster view</p> <p>14.30-15.50: WG2 presentation – part I (chair: WG2 vice-leader, E. Lepeltier) 10 minutes/presentation</p> <p>14.30-14.40: Ryszard Ostaszewski (Poland) Selected strategies used to design anticancer drugs</p> <p>14.40-14.50: Vladimir Dobricic (Serbia) Rational design of multi-target compounds with potential anticancer activity</p>	<p>14.50-15.00: Andreia Valente (Portugal) New ruthenium metallodrugs against cancer multidrug resistance</p> <p>15.00-15.10: Iztok Turel (Slovenia) Ruthenium complexes as potential antitumor agents</p> <p>15.10: 15.20: Nenad Filipović (Serbia) Nitrogen donor ligands and their coordination compounds as a tool for treatment of multi drug resistant tumors</p> <p>15.20-15.30: Catherine Passirani (France) Formulation of lipid nanocapsules and self-assemblies in order to reach MDR cancers</p> <p>15.30-15.40: Miguel Machuqueiro (Portugal) In silico studies of pHLIPs: the pH-sensitive peptides that target the acidity of tumor cell surface</p> <p>15.40-15.50: Rachela Popovtzer (Israel) Cell-based Strategies for the Delivery of Theranostic Nanoparticles</p> <p>15.50 -16.30: tea break and one-to-one interaction</p> <p>16.30-17.20: WG2 presentation – part II (chair: WG2 leader, C. Passirani) 10 minutes/presentation</p> <p>16.30-16.40: Attila Hunyadi (Hungary) Natural product inspired chemical approaches against MDR cancer</p> <p>16.40-16.50: Kateřina Valentová (Czech Republic) MDR-modulating natural flavonoids and flavonolignans</p> <p>16.50-17.00: Patrícia Rijo (Portugal) Diterpenoids from <i>Plectranthus</i> spp. as P-glycoprotein inhibitors in multidrug resistant NCI-H460/R cells</p> <p>17.00-17.10: Constantinos Athanassopoulos (Greece) Abietic acid: a natural template for the development of downstream Hedgehog pathway inhibitors</p> <p>17.10-17.20: Janez Ilas (Slovenia) Discovery of novel ATP-competitive human DNA topoisomerase II inhibitors through biological screening of marine alkaloid oroidin analogues library</p> <p>17.20-18.00: one-to-one interaction</p> <p>18.00: End of WG meeting day 1</p> <p>Buffet Dinner</p>
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<p>THURSDAY 31TH JANUARY</p> <p>WORKING GROUP MEETING – day 2</p> <p>8.30 Opening</p> <p>8.40-10.10: WG3 presentation – part I (chair: WG3 leader, M. H. Vasconcelos) 10 minutes/presentation</p> <p>8.40-8.50: Chiara Riganti (Italy) ABC transporters: biomarkers of a multi-stress resistant phenotype and targets of new synthetic chemotherapeutic drugs</p> <p>8.50-9.00: Gabriella Spengler (Hungary) Reversal of resistance: multidrug efflux pumps and the role of efflux pump inhibitors</p> <p>9.00-9.10: Cosmin Teodor Mihai (Romania) Natural compounds to treat or prevent the multi-drug resistance in cancer cells</p> <p>9.10-9.20: Oscar Lopez Lopez (Spain) ROS and antiproliferative agents</p> <p>9.20-9.30: Christiana Neophytou (Cyprus) TPGS-based approaches in battling resistant breast cancer</p> <p>9.30-9.40: Vilma Petrikaite (Lithuania) Improvement of drug penetration into 2D and 3D cell culture models</p> <p>9.40-9.50: Flavio Rizzolio (Italy) From nanoformulation of small molecules to personalized drug screening: A tumoroid Point of View</p> <p>9.50-10.00: Monica Suarze (Norway) Single-cell tracking to reveal sub-populations among cancer cells</p> <p>10.00-10.10: Sandor Kasas (Switzerland) Monitoring anti-cancer drugs action by atomic force microscopy</p> <p>10.10-10.40: Coffee break and one-to-one interaction</p>	<p>10.40-11.20: WG3 presentation – part II (chair: WG3 vice-leader, C. Riganti) 10 minutes/presentation</p> <p>10.40-10.50: M. Helena Vasconcelos (Portugal) Horizontal transfer of MDR traits by extracellular vesicles: implications for diagnosis and treatment of MDR cancers</p> <p>10.50-11.00: Nuray Erin (Turkey) Differential characteristics of heart liver, and brain of murine breast carcinoma: Possible mechanisms of therapeutic failure</p> <p>11.00 -11.10: Petra Heffeter (Austria) Translational research in Vienna: How can we improve tumor targeting of anticancer drugs</p> <p>11.10-11.20: Ana Bela Sarmiento-Riberiro (Portugal) From molecules to targeted therapies in hematological neoplasias - implications in prognosis and therapeutic failure</p> <p>11.20-12.20: WG4 presentation (chair: WG4 leader, S. Saponara; WG4 vice-leader, V. Tzankova) 10 minutes/presentation</p> <p>11.20-11.30: José M. Padrón (Spain) A Modular Approach to Trim Cellular Targets in Anticancer Drug Discovery</p> <p>11.30-11.40: Ivanka Tsakovska (Bulgaria) Development and application of in silico approaches to predict pharmacological/toxic effects of bioactive compounds</p> <p>11.40-11.50: Tiziano Serra (Switzerland) Strategies for the generation of vascularized 3D-in vitro cancer models</p> <p>11.50-12.00: Hannu Raunio (Finland) Characterization of metabolic pathways of small molecule drugs</p> <p>12.00-12.10: Simona Saponara (Italy) Assessment of cardiovascular liabilities of new candidate drugs</p> <p>12.10-12.20: Virginia Tzankova (Bulgaria) Nanotoxicology tools for safety evaluation of novel drug-delivery systems</p> <p>12.20-12.40: Concluding remarks (Core Group)</p> <p>12.40-13.00: one-to-one interaction</p> <p>13.00: light lunch before departure</p>
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POSTER SESSION

1. **Radka Vaclavikova (Czech Republic)**. Identification of new diagnostic/predictive biomarkers and compounds applicable to personalized treatments of multidrug resistant tumors
2. **Lidija Todorovic (Serbia)**. Expression and gene variants of VHL tumour suppressor in papillary thyroid carcinoma
3. **Didier Desmaele (France)**. Is Squalenization a Possible Way to Tackle Multidrug Resistance?
4. **Loretta Lazzarato (Italy)**. Searching for new "chemical stratagem" against MDR tumors. Part A: "Light solution "
5. **Konstain Chegaev (Italy)**. Searching for new "chemical stratagem" against MDR tumors. Part B: "Gaseous solution"
6. **Stefano Guglielmo (Italy)**. Searching for new "chemical stratagem" against MDR tumors. Part C: Efficiently targeting drug efflux
7. **Sabrina Dallavalle (Italy)**. Potential of novel Heat Shock Protein 90 (HSP90) inhibitors for P-glycoprotein inhibition and cancer multidrug resistance reversal
8. **Nace Zidar (Slovenia)**. Discovery of isoform selective voltage-gated sodium and potassium channel modulators for the treatment of cancer
9. **Jitka Viktorova (Czech Republic)**. Natural flavonoids and flavonolignans as modulators of MDR
10. **Milica Pesic (Serbia)**. The role of antioxidant, coenzyme Q10, in suppressing invasion of temozolomide resistant rat glioma
11. **Isabella Poetsch (Austria)**. Pt(IV) cisplatin carrying epigenetically active ligands shows enhanced anti-cancer activity in vitro and in vivo
12. **Sonja Hager (Austria)**. The role of MAP kinase signaling in the paraptotic cell death induced by thiosemicarbazone
13. **Hemma Schueffl (Austria)**. Impact of linker modification on the in vitro and in vivo anticancer activity of novel albumin-targeting platinum(IV) drugs
14. **Jelena Dinic (Serbia)**. Evaluation of anticancer compounds activity and toxicity in zebrafish model
15. **Denitsa Aluani (Bulgaria)**. In vitro and in vivo approaches for non-clinical safety assessment: emphasis on hepatotoxicity
16. **Andrei Luca (Romania)**. In vitro and in vivo safety profiling of novel compounds with respect to renal function