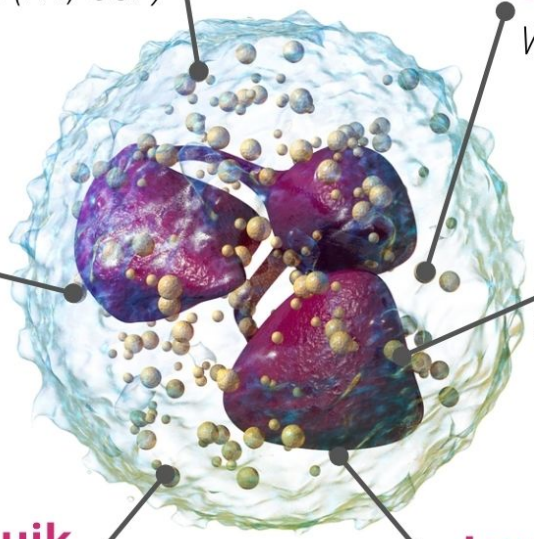
LEARN TO WIN, THE AAS & THE SFAX UNIVERSITY PRESENT

ONCO-IMMUNOLOGY CONFERENCE DAY

17.FEBRUARY.2022 · ONLINE EVENT

Giulia Petroni
Weill Cornell Medical College (NY, USA)

Shensi Shen
West China Hospital (China)



Hend Hachicha
Sfax University (Tunisia)

Wided Kelmemi
BioScience Field Application Specialist Merck Group

Hayet Douik
Tunis El Manar University (Tunisia)

Laura Senovilla
Universidad de Valladolid (Spain)

Chairpersons :

Kamel Benlagha *Paris Diderot University, France*
Mohamed Jemaà *AAS, Learn to Win*
Hatem Masmoudi *Sfax University, Tunisia*

INSTITUT FRANÇAIS TUNISIE

Welcome Letter

Dear Colleagues and Friends,

We are very pleased to welcome you for the Onco-Immunology Conference Day Organized by Learn to Win, the African Academy of Science and Sfax University.

Learn to win is a consulting company in science, research and education related jobs. The African Academy of Science AAS is a pan African organization with a main vision: to see transformed lives on the African continent through science. Sfax University is a hub for innovation and health research and regularly classified as top Tunisians Universities. We are also grateful to our strategic partner, the Institut Français de Tunisie IFT.

The conference will open with a brief introduction about Onco-Immunology as well as future research perspectives and opportunities in Tunisia.

We are privileged to host 6 international Speakers. From China Shensi Shen (Ph.D.), West China Hospital, Chengdu who will speak about the persistent cancer cell in anti-cancer therapies with a particular focus on melanoma. From Spain Laura Senovilla (Ph.D.), Valladolid Universidad who will explain the paradoxical implication of BAX/BAK in cancer. From USA Giulia Petroni (Ph.D.), Weil Cornell College, Division of Radiation Oncology, New York who will talk about the anti-tumor immune response following treatment with cell cycle inhibitors and radiation therapy. From Tunisia Hind Hachicha (Ph.D.), Faculty of Medicine/Sfax University and a nice talk about Cancer context and immune response in Tunisia and Hayet Douik (Ph.D.), Faculty of Medicine/University of Tunis El Manar and the story of HLA-E and MICA polymorphism in nasopharyngeal cancer risk. Wided Kelmemi (Ph.D.) FAS from Merck Group will be presenting the multiplexing technology. Kamel Belagha (Ph.D.) from Université Pierre et Marie Curie (Paris VI) and Professor Hatem Masmoudi from Université de Sfax will honour us being the chairmen of the conference.

During the conference day, there will be an informal networking session with all the invited speakers and the participants, in order to talk science, opportunities and future ways of collaboration. Of course there will also be several oral talks and E-posters presented by the participants and prizes for the best ones will be distributed during the closing ceremony.

So let me thank you very much for your collaboration. Hoping that the lectures will be of great interest to you and very stimulating for your future work.

With best Wishes and Regards,

Mohamed Jemaà

Organizers

Learn to win is an academia and science job-related consulting company. Our talented and multidisciplinary team offer several training courses and workshops in a diverse range of academic areas. We coach doctoral and postdoctoral candidates to find opportunities and optimise their applications, either in academia or in industry. We help researchers and others in grants writing and applications. We coach and co-work with young scientists in how to publish data in the best journals. We offer solutions for laboratories and other institutions to establish collaboration, organise outstanding scientific events and other science related actions. We also offer on-demand courses.

The African Academy of Sciences (AAS) is a non-aligned, non-political, not-for-profit pan African organisation. The AAS' vision is to see transformed lives on the African continent through science by providing advisory and think tank functions for shaping Africa's Science, Technology and Innovation (STI) strategies and policies, and implementing key STI programmes. The Academy's five strategic focus areas include: Environment and climate change; health and wellbeing; natural sciences; policy and governance; and social sciences and humanities.

Founded in 1986 as part of the decentralization of higher education in Tunisia, the University of Sfax has experienced since its creation a regular evolution in the number of students (nearly 40,000), the number of teachers and the quality of training. in its establishments. The University is now living through a new era of development and restructuring. Sfax University is ranked the second best Tunisian university; the third best university in the Arab regions in Biological Sciences and fourth in Computer Sciences.

Partenaire

L'Institut français de Tunisie (IFT) fait partie du réseau mondial des instituts français. Le bureau principal est situé à Tunis en Tunisie, tandis que deux antennes locales complètent son réseau à Sousse et Sfax.

La coopération française en Tunisie, pilotée par le Service de coopération et d'action culturelle, constitue le principal instrument de cette coopération bilatérale et occupe une place centrale dans les relations entre la France et la Tunisie.

L'IFT poursuit des objectifs majeurs, notamment :

Développer les liens entre les sociétés civiles tunisienne et française
Développer les échanges culturels et scientifiques entre la France et la Tunisie
Contribuer à la formation, à l'emploi et au développement économique et social de la Tunisie.

La collaboration économique, technique et technologique entre la France et la Tunisie s'étend entre autres aux sciences, aux domaines des technologies de l'information et de la communication et à la formation des jeunes professionnels.

L'Institut français propose diverses activités culturelles, en plus des cours et classes de français. Ainsi, les centres culturels de l'institut participent à la scène culturelle locale, en créant des évènements à visée nationale, régionale ou locale, selon les projets. L'IFT propose ainsi quelques centaines d'évènements culturels annuels répartis entre ses trois antennes. L'IFT participe également à des évènements externes, dans le cadre de la promotion de la culture et des échanges entre la France et la Tunisie, et développe des partenariats avec d'autres entités gouvernementales ou non gouvernementales.

Chairpersons

Kamel Benlagha

INSERM, UMR-1160, Institut de Recherche St-Louis (IRSL)
Universite Paris Diderot, Sorbonne, Paris, France.
kamel.benlagha@inserm.fr

Kamel Benlagha performed his doctoral studies at the University Pierre et Marie Curie in Paris, a postdoctoral fellowship at Princeton University, and then joined as an Instructor the University of Chicago. In 2005, he joined the Inserm Institute as a researcher. Dr. Benlagha group focuses on basic and translational aspects of thymopoiesis, combining murine models of T-cell development and human studies. The team developed a deep expertise in the study of invariant NKT cells (iNKT) in murine models and in humans. He described the iNKT17 subset with a specific focus on the development of this subset compared to iNKT1 and iNKT2.

Hatem Masmoudi

Department of Immunology, Research Laboratoy LR18/SP12 "Autoimmunity, Cancer And Immunogenetics", Habib Bourguiba University Hospital, University of Sfax, Sfax, Tunisia
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Hatem Masmoudi (MD/PHD) is a Professor in Medicine and Head of Immunology Department of the Medical School and Habib Bourguiba Hospital of Sfax, where he heads the Research Unit UR12/SP46 "Autoimmunity and Immunogenetics". After immunoglobulins allotypy and idiotypy and CD5+ B cell repertoires, his research conducted these last twenty years focuses on the immunogenetic and environmental factors of susceptibility to autoimmune diseases, mainly pemphigus, type 1 diabetes, lupus and inflammatory bowel diseases. Hatem Masmoudi is the current President of the African Federation of Immunological Societies (FAIS : faisafrica.com). He was Vice President of the Tunisian Society of Clinical Biology (www.stbc.org.tn) and Chairman of its scientific committee (1999-2005). After being its treasurer, Secretary General and President (2004-2014), he is now the Past-President of the Tunisian Society of Immunology (www.immunology.org.tn).

Program

09h00 –9h20: Opening

09h20 – 10h00: Conference 1

Shensi Shen

(shenshensi@wchscu.cn)
West China Hospital, Sichuan University Chengdu, China & Institut Gustave Roussy Villejuif, France
Persistent cancer cell in anti-cancer therapies: Blazing the trail with melanoma

10h00 – 10h40: Conference 2

Wided Kelmemi

(wided.kelmemi@merckgroup.com)
BioScience Field Application Specialist Africa, Middle East and Pakistan, Merck Group
Do more with less: Intelliflex and Milliplex for Cancer Biomarkers Studies

10h40 – 11h00: Oral Communication 1

Awatef Ben Jemaa

(benjemaa_awatef@yahoo.fr)
Immunology microbiology environmental and carcinogenesis, Faculty of science of Bizerte, Tunisia
Synergy between the immunological marker GATA3 and p53 status in BPH and PC pathologies

11h00 –11h20: Break

10h00 – 10h40: Conference 3

Giulia Petroni

(gip4003@med.cornell.edu)
Weil Cornell College, Division of Radiation Oncology, New York, USA
Anti-tumor immune response following treatment with cell cycle inhibitors and radiation therapy

12h00 – 12h20: Oral Communication 2

Mohamed Jemaà

(jemaamohamed@gmail.com)
Molecular Biotechnology of Eukaryotes Laboratory, Center of Biotechnology of Sfax, Tunisia
SP600125 overcomes tetraploid colon cancer cells resistance to DNA damage induced by radiation

12h20 –14h00: Lunch

14h00 – 14h40: Conference 4

Laura Senovilla

(laura.senovilla@uva.es)
Instituto de Biología y Genética Molecular (IBGM) – Universidad de Valladolid, Spain

Paradoxical implication of BAX/BAK in cancer

14h40 – 15h00: Oral Communication 3

Rima Benatoui

(benattouiryma@gmail.com)
Laboratory of applied neuroendocrinology, department of biology, Faculty of sciences, Badji Mokhtar University, Annaba, Algeria

Algerian plant extracts effect on stress

15h00 – 15h20: E-Poster 1

Imen Bédoui

(imenbedoui23@gmail.com)
Faculty of medicine, Sfax University, Tunisia

***Scorzonera Undulata* as local anticancer treatment candidate**

15h20 – 16h00: Conference 5

Hayet Douik

(htdouik@yahoo.fr)
Salah Azaiz Institute of Cancer, Tunis Tunisia, Faculty of Medicine of Tunis & University Tunis el Manar, Tunisia

HLA-E and MICA polymorphism in nasopharyngeal cancer risk

16h00 –16h20: Break

16h20 – 17h00: Conference 6

Hend Hachicha

(drhendhachicha@gmail.com)
Department of Immunology Research , Laboratoy LR18/SP12 "Autoimmunity, Cancer And Immunogenetics", Habib Bourguiba University Hospital, University of Sfax, Sfax, Tunisia.

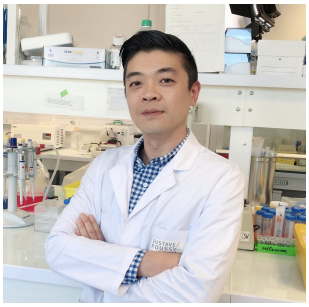
Cancer and Immune response in Tunisia

17h00 –17h20: Closing

Speakers

Shensi Shen

West China Hospital, Sichuan University Chengdu, China
Institut Gustave Roussy Villejuif, France



"Persistent cancer cell in anti-cancer therapies: blazing the trail with melanoma"

Persistent cancer cells are the discrete and usually undetected cells that survive cancer drug treatment and constitute a major cause of treatment failure. These cells are characterized by their slow proliferation, highly flexible energy consumption, adaptation to their microenvironment, and phenotypic plasticity. Mechanisms that underlie their persistence offer highly coveted and sought-after therapeutic targets, and include diverse epigenetic, transcriptional, and translational regulatory processes, as well as complex cell-cell interactions. Although the successful clinical targeting of persistent cancer cells remains to be realized, immense progress has been made in understanding their persistence, yielding promising preclinical results.
Keywords: adaptive resistance; cancer drug addiction; cancer treatment; mechanisms of cancer persistence; non-genetic resistance; persistent cancer cells; therapeutic evasion.

Wided Kelmemi

BioScience Field Application Specialist Africa, Middle East and Pakistan, Merck Group.

Wided Kelmemi obtained her Ph.D. in Human Biology at the University of Tunis El Manar, Tunisia. After an academic experience, Wided shifted to Industry and she's actually working as a Field Application Specialist at Merck Group taking care of the BioScience portfolio for the African continent, MENA Region and Pakistan. Doctor Kelmemi is passionate about research, people and data and if you are looking for any kind of scientific support she will be more than happy to help.

"Do more with less: Intelliflex and Milliplex for Cancer Biomarkers Studies"

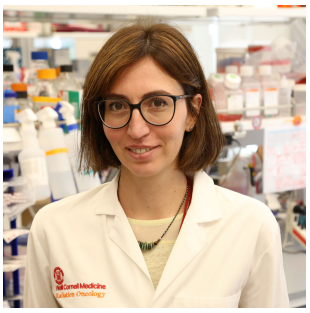
Accurately quantifying proteins levels is a very informative procedure in research and diagnostic. Assays measuring the level of a biomarker in a homogenous liquid or tissue sample (typically ELISA or western blot) have been the backbone of biological research for many years however still showing limitations in workflow, sensitivity, sample volume and most importantly in assay dynamic range. Bead-based multiplex immunoassays and platforms came to offer distinct advantages over singleplex assays as they combine assays for many target analytes in a single reaction volume, reducing workflow and sample volume problems as well as enhancing sensitivity.

The Multiplexing portfolio from Merck provide over 200 totally customizable Panels and more than 1000 biomarkers for over 7 species to use in several research areas as immunology and cancer. Along with the Milliplex assays, the xMAP INTELLIFLEX® platform enhance performance, empower assay development innovation, and simplify user experience being the only compact, flow-based, multiplex platform that combines the proven performance of the xMAP Technology with modern features.

Multiplex immunoassay-based technology from Merck and Luminex is an advanced technology that allow for the collection of robust data sets aimed at explaining a variety of complicated biological processes while reducing costs, time, and sample volume.

Giulia Petroni

Weil Cornell College, Division of Radiation Oncology, New York, USA.



Giulia Petroni obtained her Ph.D (Clinical Science, 2014) from the University of Florence, Italy. She continued her postdoctoral studies in General Pathology at the same University. Giulia's PhD and postdoctoral trainings have always been focused on understanding mechanisms of resistance to therapies, first studying the immunogenicity of therapeutic monoclonal antibodies (*e.g.*, infliximab and rituximab) currently used for several diseases (including rheumatoid arthritis and cancer), and then elucidating molecular and cellular mechanisms underlying resistance of colorectal and breast cancer to conventional chemotherapy. Giulia joined the laboratory of Dr. Galluzzi (Department of Radiation Oncology, WCMC, New York) as Visiting Scientist in April 2019, while she had the opportunity to learn innovative methodologies related to the generation and management of a unique immunocompetent HR^+ breast cancer model. During these 6 months, she was supported by the "Postdoctoral Fellowship 2019" funded by Fondazione Umberto Veronesi. Giulia is now a post-doctoral fellow in Dr. Galluzzi's lab and her current research is focused on investigating the immunological mechanisms of resistance to cell cycle inhibitors (*i.e.*, palbociclib) in HR^+ breast cancer.

"Immunological mechanisms of resistance to CDK4/CDK6 inhibitors in HR^+ breast cancer"

Hormone receptor$^+$ (HR^+) breast cancer (BC) is the most frequent cause of BC-related deaths. CDK4/6 inhibitors (CDK4/6i) combined with endocrine therapy (ET) emerged as an effective approach for metastatic HR^+ BC. However, >50% women with HR^+ BC receiving CDK4/6i+ET ultimately relapse, potentially due to activation of poorly characterized immunosuppressive pathways in the tumor microenvironment (TME). Thus, strategies breaking resistance to CDK4/6i+ET in women with HR^+ BC are urgently awaited. In this context, radiation therapy (RT) mediates immunostimulatory effects that only partially overlap with those of CDK4/6i+ET, and we recently demonstrated that RT followed by the CDK4/6i palbociclib (RT→P) enables superior tumor control in various immunocompetent mouse models of HR^+ BC.

To dissect the immunological mechanisms underlying sensitivity *vs.* resistance to treatment in HR^+ BC exposed to P+ET *vs.* RT→P+ET we performed single-cell RNAseq on $CD45^+$ cells infiltrating MPA/DMBA (M/D)-driven mammary carcinomas established in immunocompetent mice (a unique model of luminal B BC), coupled to bulk RNAseq, bioinformatic analysis on public patient datasets, functional studies on *ex vivo* immune cells and efficacy studies. We observed that (1) RT and P+ET alone mediate partial efficacy correlating with accumulation of immunosuppressive T_{REG} and IL17A-producing γδ T cells, respectively, (2) γδ T cell depletion and IL17A neutralization improve the efficacy of P+ET, (3) RT→P+ET mediates superior tumor control, which is partially offset by $CD4^+$/$CD8^+$ T cell co-depletion and correlates with limited infiltration by γδ T cells and T_{REGS}. Our observations suggest that IL17A-producing γδ T cells support the resistance of HR^+ BC to CDK4/6i+ET, and hence constitute potential targets to delay disease progression.

Laura Senovilla

Distinguished Senior Investigator at Instituto de Biología y Genética Molecular (IBGM) – Universidad de Valladolid (Spain)

Dr. Laura Senovilla obtained her PhD degree (in Physiology) by the Universidad de Valladolid before joining the laboratory of Prof. Guido Kroemer (U848. INSERM) at the Gustave Roussy Cancer Center (Villejuif, France) where she was supported by a Marie Curie contract and a senior postdoctoral fellowship from the Fondation pour la Recherche Médicale (FRM). Since 2014 is a tenured researcher at INSERM (Paris, France) at Centre de Recherche des Cordeliers. Currently on leave of absence for 4 years at the Instituto de Biología y Genética Molecular (IBGM – Universidad de Valladolid, Spain) as Distinguished Senior Investigator. The works that she has carried out and / or directed in the last 15 years have contributed significantly to the knowledge in onco-immunology. Specifically, these works focus on the relationship between genomic instability and the immune system in tumour development and anticancer resistance. Thanks to this work she has been awarded the Institut Necker - Fondation Tourre prize in 2013. She is now principal investigator of the "Cellular Stress and Immunosurveillance" group at the IBGM, whose main lines of research are the study of both processes in various types of cancer and in chronic diseases with the aim of identifying new biomarkers and/or proposing new therapeutic protocols.

"Paradoxical implication of BAX/BAK in cancer"

BAX and BAK are well known for their important role in the induction of mitochondrial outer membrane permeabilization (MOMP), which is the rate-limiting step of the intrinsic pathway of apoptosis. Thus, *cells deficient in BAX and BAK show resistance to apoptosis induced by anticancer treatments*. Nevertheless, apoptosis is also a mechanism present in embryonic development. BAX and BAK knock-out mice are characterized by an excess of cells in the immune system and the central nervous system. However, these mice do not develop cancer. We have reported for the first time the unexpected finding that BAX and BAK are required for the expansion of tetraploid cells generated because of failed mitosis, supporting the idea that BAX and BAK are not only pro-apoptotic proteins but that they may also be required for assuring the fitness of cells in specific circumstances such as tetraploidization. Genetic studies investigating the ploidy of cancer cells have led to the conclusion that at least 40% of solid cancers are the result of an often-transient tetraploidization followed by the loss of excessive chromosomes to reestablish a close-to-diploid (but often aneuploid) karyotype. This polyploidization/deploidization cycle may be considered as a major mechanism of genomic instability that favors oncogenesis and tumor progression and is also under the control of the immune system (which tends to eliminate tetraploid or higher-order polyploid cells). Therefore, we could say that *BAX/BAK deficiency is not a major driver of oncogenesis, because it compromises the proliferative potential of tetraploid cells*, hence obliterating one major path towards carcinogenesis.

Hayet Douik

Salah Azaiz Institute of Cancer, Tunis Tunisia
Faculty of Medicine of Tunis & University Tunis el Manar, Tunisia

Dr Douik is a scientist researcher in Salah Azaiz Institute of Cancer; she holds a PhD degree in Biology from University Tunis El Manar (Faculty of Sciences of Tunis, Tunisia). Her principal skills are genetic, molecular biology and immunogenetic. She works since more than 20 years on cancer research, especially on genetic polymorphism risk factor in diverse cancer types (breast, nasopharyngeal, colorectal, pancreas, retinoblastoma…) and response treatment resistance in breast cancer. She developed and managed the molecular biology laboratory at Salah Azaiz Institute, supervising many students in master and Thesis; she managed diverse collaboration on research project with France and India teams and she is a principal Investigator in Human Genetic Laboratory of Tunis' Faculty of Medicine. Actually, she works on RAS-BRAF mutations in colorectal cancer and molecular classification of endometrial cancer.

"HLA-E and MICA polymorphism in nasopharyngeal cancer risk"

HLA -E and MICA are two non-classical HLA Class I molecules controlling both NK cells activity by respectively inhibition via CD94/NKG2A receptor or activation via NKG2D receptor. HLA-E is characterised by a little polymorphism and a ubiquitous expression, with two alleles (HLA-E*01:01 and HLA-E*01:03), issue from a functional polymorphism and dominantly expressed in the population. MICA is a stress inducible molecule with a highly restricted expression in vivo but broadly expressed in epithelial tumours. Despite the highly polymorphic nature of MICA only one polymorphic position, Met129Val seems to affect NKG2D binding. Because of the antagonist role of HLA-E and MICA on NK cells activity, we aimed to search for HLA-E alleles and MICA Met129Val variant roles in nasopharyngeal cancer. Our results suggested first: a positive association between HLA-E*01:03 silent alleles, MICA 129 Val and nasopharyngeal cancer risk and secondly a linkage disequilibrium between HLA-E*01:01 allele with MICA 129 Val variants and HLA-E* 01:03 alleles with MICA 129Met variants.

Hend Hachicha

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Laboratoy LR18/SP12 "Autoimmunity, Cancer And Immunogenetics"
Habib Bourguiba University Hospital, University of Sfax, Sfax, Tunisia.

"Cancer and Immune response in Tunisia"

Oral Communications

Awatef Ben Jemaa

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Immunology, microbiology, environmental and carcinogenesis laboratory
Faculty of science of Bizerte, Tunisia

Synergy between the immunological marker GATA3 and p53 status in BPH and PC pathologies

Th2 immune polarization is considered to be one of the key cell populations of the prostate tumor microenvironment capable of directing the anti-tumor immune response. Th2 lymphocytes are characterized by the expression of the transcription factor GATA3. In order to resolve the issue of the pro or anti-tumor role of GATA3 in prostate tumor, our study on this immunological marker was carried out in parallel with the apoptotic anti-oncogene p53. The anti-p53 antibody used in this study is able to detect the wild and mutant form of the p53 protein. The subcellular localization of GATA3 and p53 is indicative of their states of activation. We were thus able to show that GATA3 and p53 are expressed in all of the prostate tissues analyzed (NP, BPH and PC). Taking into account the intensity of immunostaining, GATA3 and p53 are expressed in a similar fashion in NP, BPH and PC. However, the activation status of GATA3 and p53 varies between prostate groups and between the stromal and glandular component. Unlike healthy and benign tissue, in cancer patients, GATA3 and p53 are co-expressed in the cytoplasm of stromal cells. In contrast, in neoplastic cells, GATA3 accumulates in the cytoplasm while p53 occupies a nuclear position in the majority of cancer patients. In NP, the GATA3/p53 couple is absent in endothelial cells. In benign patients, the GATA3(+)/p53(-) profile is predominant in endothelial cells. In contrast, coexpression of GATA3 and p53 has been shown in endothelial cells in the majority of cancer patients. Taken together, our study argues for a pro-apoptotic anti-tumor role of GATA3 in PC. Likewise, our study suggests that p53 is an anti-oncogene whose mutation is associated with the development of prostate tumor. Our results validate the value of GATA3/ p53 coupling, the status of which of the two markers is synergistic in CaP. This extraordinary synergy between GATA3 and p53 status should be taken into consideration to better understand anti-tumor immunity in prostate tumors. **Keywords**: GATA3, p53, Th2, NP, BPH, PC.

Mohamed Jemaà

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Molecular Biotechnology of Eukaryotes Laboratory, Center of Biotechnology of Sfax, Tunisia

SP600125 overcomes tetraploid colon cancer cells resistance to DNA damage induced by radiation

Tetraploidization is the condition of having twice as many chromosomes as their normal, diploid counterparts. This particular chromosomal abnormality is frequent in cancer and favour the generation of more aggressive tumour cells with resistance against a series of DNA-damaging agents, including cisplatin, oxaliplatin, camptothecin, and gamma- and UVC-irradiation. SP600125 is a broad-spectrum inhibitor of serine/threonine kinases essentially Mps1 and Aurora and best known for inhibiting c-Jun N-terminal kinases JNK. Tetraploid cells are insensitive to SP600125 treatment, however, the combination of irradiation and SP600125 treatment overcomes cells resistance and induces cells death as manifested with the dissipation of the mitochondrial transmembrane potential and the degradation of nuclear DNA. Our data open a new window for cancer therapy with the combination of chemo- and radiotherapy.

Rima Benatoui & Abdelmadjid Bairi

(benattouiryma@gmail.com)
Laboratory of applied neuroendocrinology, department of biology
Faculty of sciences, Badji Mokhtar University Annaba, Algeria

Algerian plant extracts effect on stress

Many plants has competed in pharmacology. Each plant characterized by its way of function that differ in treatment of the same disease. In this study, we have interested in comparing the effect of ginseng and ginkgo and ginseng in treating the stress at old male rats. All disturbances caused by stress on the weight of organs such the brain, kidneys, heart, spleen, liver, especially the adrenal gland, that is confirm the mitigation of both treatment improving the organ's functions. The MCV and MCHL decreased in stressed group and increased in treated and stressed-treated group. White blood cells deceased significantly, after stress compared with treated and control stress. Our results reveal the treated effect of both plants at different levels, that also shown by the behavior of the rats at the end of the treatment during the behavioral tests. Key words: white blood cells, organ's weight.

E-Poster

Imen Bédoui

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Faculty of medicine, Sfax University, Tunisia

Scorzonera Undulata as local anticancer treatment candidate

Phytotherapy is defined as the usage of plant and their compounds to treat or prevent various diseases. In our work, the chemical composition and the antioxidative properties of methanolic roots and aerial parts extracts of *Scorzonera Undulata* were assessed and antitumoral effect were experimented. HPLC analysis showed that methanolic extracts contain various amount of gallic acid, chlorogenic acid, caffeic acid, vanillic acid, rutin, verbascoside, luteolin-7-glucoside, p-coumarin, apigenin-7-glucoside, ferulic acid, naringenin, luteolin, quercetin and apigenin. Apigenin was the most in both parts of the plant (1.49 mg/ml and 0.14 mg/ml respectively in aerial parts and roots). Gallic acid and apigenin-7-glucoside were only identified in aerial part extract (0.56 mg/ml and 0.11 mg/ml, respectively). The antioxidant effect of methanolic roots (MB) and aerial parts (MP) extracts were evaluated using the DPPH assay and revealed that MB is more potent in scavenging the radicals (IC50 = 0.105 ± 0.012 mg/ml) than MP (IC50= 0.232 ± 0.005 mg/ml). Based on literature, apigenin and luteolin exert anti-cancer activity against various cancer kinds. This encourages us to further investigate the S. undulate extract on tumour cells and propose *Scorzonera Undulata* as local anticancer treatment.