Advances in Circulating Tumour Cells:
Liquid Biopsy in Clinical Practice

Rodos Palace International Convention Center
Rhodes, Greece

October 4th – 7th, 2017
Dear Friends and Colleagues,

It is our great pleasure to welcome you to the 3rd ACTC “Liquid Biopsy in Clinical Practice” meeting in Rhodes.

The 3rd ACTC meeting is focused on “Liquid Biopsy in Clinical Practice” by bringing together researchers and clinicians to discuss practical implementation of CTCs and ctDNA and translate much of the excellent basic research in this field into clinical practice. The most prominent and established researchers in the field will present state of the art research on the technical advancements in the isolation, and detection of CTCs, ctDNA, miRNAs and exosomes as well as on the potential of Liquid Biopsy analysis in Clinical Practice. Latest findings on the clinical applications of liquid biopsy in prognosis and real time monitoring of systemic anticancer therapies will be discussed.

We aim to ensure that the ACTC meeting will be as interactive as possible and stimulate intense discussions between basic and clinical researchers, as well as Diagnostics and Pharma-industry companies that are active in this exciting field. Networking and knowledge sharing across basic researchers, clinicians and Diagnostics and Pharma-industry companies will be an important part of this event.

We do hope that during these days you will have the chance to enjoy stimulating discussions and a lot of thoughtful interactions that will lead to fruitful scientific collaborations in a relaxed and friendly atmosphere.

Welcome in Rhodes! Enjoy the meeting!

Warm regards,

Evi S. Lianidou  
University of Athens, Greece

Klaus Pantel  
University of Hamburg, Germany
INVITED SPEAKERS

Sofia Agelaki, MD, PhD, Ass. Professor, Medical School, University of Crete, Greece
Catherine Alix-Panabières, Laboratoire Cellules Circulantes Rares Humaines - LCCRHR, Institut de Recherche en Biothérapie - IRB, Hôpital Saint-Eloi - CHRU Montpellier, France
Alberto Bardelli, PhD, Institute for Cancer Research and Treatment, Dept. of Oncology, University of Torino, Candiani, Italy
Richard J. Cote, MD, FCRPath, FCAP, University of Miami Miller School of Medicine, USA
Massimo Cristofanilli, MD, FACP, Associate Director for Precision Medicine and Translational Research, Lurie Cancer Center, Northwestern University, Chicago, USA
Luis Diaz, Head, Division of Solid Tumor Oncology at Memorial Sloan Kettering Cancer Center NY, USA
Caroline Dive, PhD, Professor, Deputy Director Cancer Research UK Manchester Institute, Senior Group Leader Clinical & Experimental Pharmacology, The University of Manchester, UK
Françoise Farace, PhD, Gustave Roussy, Université Paris-Saclay, “Circulating Tumor Cells” Translational Platform, INSERM, Paris, France
Maurizio Ferrari, MD, President of the International Federation of Clinical Chemistry (IFCC), Professor of Clinical Pathology University Vita-Salute San Raffaele Director of Clinical Molecular Biology and Cytogenetics Laboratory, Head of Unit Genomics for Diagnosis of Human Pathologies, IRCCS San Raffaele – Milan, Italy
Dave Hoon, PhD, Director, Dept. of Molecular Oncology, John Wayne Cancer Institute, Santa Monica, CA, USA
Michail Ignatiadis, Ass. Professor, Jules Bordet Institute, Brussels, Belgium
Maarten IJzerman, Professor, Health Technology & Services Research, University of Twente, The Netherlands
Stefanie S. Jeffrey, Stanford University School of Medicine, Stanford, California, USA
Raghu Kalluri, MD, PhD, Dept. of Cancer Biology, Metastasis Research Center, University of Texas MD Anderson Cancer Center, Houston, TX, USA
Yibin Kang, PhD, Warner-Lambert / Parke-Davis Professor of Molecular Biology, Princeton University, Princeton, New Jersey, USA
Sabine Kasimir-Bauer, PhD, Professor, Head of Laboratory, Dept. of Gynecology and Obstetrics, University Hospital of Essen, Germany
Gary J. Kelloff, MD, Special Advisor, CIP, DCTD, National Cancer Institute, NIH, USA
Peter Kuhn, Professor, USC Dornsife, Los Angeles, CA, USA
Lauren Leiman, Senior Director, External Partnerships at White House Cancer Moonshot Task Force, USA
Evi Lianidou, Professor, ACTC lab, Dept. of Chemistry, University of Athens, Greece
Dennis Lo, Professor, Li Ka Shing Institute of Health Sciences, The Chinese University of Hong Kong, Shatin, New Territories, Hong Kong SAR, China
Mike Makrigiorgos, PhD, Professor and Director, Medical Physics and Biophysics, Dana-Farber Cancer Institute and Harvard Medical School, Boston, USA
Sunita Nagrath, Associate Professor of Chemical Engineering, University of Michigan, Ann Arbor, USA
Bjorn Naume, Professor, Oslo University Hospital, Oslo, Norway
Klaus Pantel, Professor, Director, Institute of Tumour Biology, Centre of Experimental Medicine, University Medical Centre Hamburg-Eppendorf, Hamburg, Germany
Jean-Yves Pierga, MD, PhD, Professor of Medical Oncology, at the Institute Curie and University Paris Descartes, Paris, France
Brigitte Rack, MD, PhD, Dept. of Obstetrics and Gynecology, University of Ulm, Germany
Thomas Schlange, PhD, Senior Biomarker Scientist, Global Biomarker Research, Bayer Pharma
Michael Speicher, MD, Professor and Chairman of the Institute of Human Genetics, Medical University of Graz, Austria
Leon Terstappen, Professor, Faculty of Science and Technology, MIRA Research Institute, Dept. of Medical Cell Biophysics, University of Twente, Enschede, the Netherlands
Jean Paul Thiery, Professor, Research Director Comprehensive Cancer Center Institut Gustave Roussy, Villejuif, France
Danny R. Welch, Dept. of Cancer Biology and The University of Kansas Cancer Center, The University of Kansas Medical Center, Kansas City, USA
DAY 1: Wednesday, October 4

07:30 – 08:30 Registration

08:45 – 09:00 Welcome address
Chairperson’s Opening Remarks

09:00 - 12:00 Plenary Lecture Session 1:
Recent Advances in the Biology of Metastasis
Chairing: Catherine Alix-Panabières & Yibin Kang

09:00 – 09:30 “Liquid Biopsy: Potential and Challenges”
Klaus Pantel, Professor, Director, Institute of Tumour Biology, Centre of Experimental Medicine, University Medical Centre Hamburg Eppendorf, Hamburg, Germany

09:30 – 10:00 “Epithelial mesenchymal transition in carcinoma; therapeutic intervention”
Jean Paul Thiery, Professor, Research Director Comprehensive Cancer Center Institute Gustave Roussy, Villejuif, France

10:00 – 10:30 “Contributions of Mitochondrial DNA to metastatic efficiency”
Danny R. Welch, Dept. of Cancer Biology and The University of Kansas Cancer Center, The University of Kansas Medical Center, Kansas City, USA

10:30 – 11:00 Networking Coffee Break in the Exhibition Hall
Chairing: Jean Paul Thiery & Danny R. Welch

11:00 – 11:30 “Models for Studying CTCs and Metastatic Biology”
Stefanie S. Jeffrey, Stanford University School of Medicine, Stanford, California, USA

11:30 – 12:00 “Bone niches for the development and treatment resistance of skeletal metastasis”
Yibin Kang, PhD, Warner-Lambert/Parke-Davis Professor of Molecular Biology, Princeton University, Princeton, New Jersey, USA

12:00 – 13:30 Lunch Break

13:30 – 15:00 POSTER SESSION 1 and Networking Coffee Break in the Exhibition Hall

15:00 – 18:00 Plenary Lecture Session 2:
Liquid Biopsy in Breast Cancer: The clinician’s point of view
Chairing: Massimo Cristofanilli & Jean-Yves Pierga

15:00 – 15:30 “Characteristics of DTCs in breast cancer to understand clinical behavior”
Bjorn Naume, Professor, Oslo University Hospital, Oslo, Norway

15:30 – 16:00 “CTCs and circulating miRNAs in breast cancer”
Sofia Agelaki, MD, PhD, Ass. Professor, Medical School, University of Crete, Greece
**DAY 2: Thursday, October 5**

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<tr>
<th>Time</th>
<th>Session</th>
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<tr>
<td>08:30 – 12:00</td>
<td>Plenary Lecture Session 3: Liquid Biopsy in Solid Cancers</td>
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<tr>
<td>08:30 – 09:00</td>
<td>“What’s next for lung cancer CTCs?”</td>
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<tr>
<td>PL3-1</td>
<td>Caroline Dive, PhD, Professor, Deputy Director Cancer Research UK Manchester Institute, Senior Group Leader Clinical &amp; Experimental Pharmacology, The University of Manchester, UK</td>
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<tr>
<td>09:00 – 09:30</td>
<td>“Molecular and functional characterization of CTCs in non-small cell lung cancer”</td>
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<tr>
<td>PL3-2</td>
<td>Françoise Farace, PhD, Gustave Roussy, Université Paris-Saclay, “Circulating Tumor Cells” Translational Platform, INSERM, Paris, France</td>
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<tr>
<td>09:30 – 10:00</td>
<td>“Health Economic Implications of Liquid Biopsies”</td>
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<tr>
<td>PL3-3</td>
<td>Maarten IJzerman, Professor, Health Technology &amp; Services Research, University of Twente, The Netherlands</td>
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<tr>
<td>10:00 – 10:30</td>
<td>Networking Coffee Break in the Exhibition Hall</td>
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<td>Chairing: Klaus Pantel &amp; Stefanie Jeffrey</td>
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<tr>
<td>10:30 – 11:00</td>
<td>“Analyses of circulating tumor DNA for monitoring tumor genome evolution”</td>
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<td>PL3-4</td>
<td>Michael Speicher, MD, Professor and Chairman of the Institute of Human Genetics, Medical University of Graz, Austria</td>
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<tr>
<td>11:00 – 11:30</td>
<td>“CTCs and ctDNA monitoring melanoma patients in early stage and advance stages during treatment.”</td>
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<td>PL3-5</td>
<td>Dave Hoon, PhD, Director, Department of Molecular Oncology, John Wayne cancer Institute, Santa Monica, CA, USA</td>
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<td>11:30 – 12:00</td>
<td>“The diversity of CTCs and DTCs in ovarian cancer—what is the role of the tumor microenvironment?”</td>
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<td>PL3-6</td>
<td>Sabine Kasimir-Bauer, PhD, Professor, Head of Laboratory, Dept. of Gynecology and Obstetrics, University Hospital of Essen, Germany</td>
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<td>12:00 – 13:30</td>
<td>Lunch Break</td>
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<td>13:30 – 15:00</td>
<td>POSTER SESSION 2 and Networking Coffee Break in the Exhibition Hall</td>
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<td>15:00 – 16:30</td>
<td>ORAL PRESENTATIONS, Session 1</td>
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<tr>
<td>Chairing: Sofia Agelaki &amp; Brigitte Rack</td>
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01-1 CIRCULATING TUMOUR CELLS: THE TUMOUR TRAIL LEFT IN THE BLOOD
A. Kulasinoh1, C. Perry2, L. Kenny3, T. Blick1, M. Warkiani1, I. Vela3, K. O’Byrne6, J. P Thiery2, E. Thompson1, C. Nelson3, C. Punyadeera3
1The School of Biomedical Sciences, Institute of Health and Biomedical Innovation, Queensland University of Technology, Kelvin Grove, QLD, Australia, 2Department of Otolaryngology, Princess Alexandra Hospital, Brisbane, QLD, Australia, 3School of Medicine, University of Queensland, Royal Brisbane and Women’s Hospital, Brisbane, Central Integrated Regional Cancer Services, Queensland Health, QLD, Australia, 4School of Mechanical and Manufacturing Engineering, Australian Centre for NanoMedicine, University of New South Wales, Sydney, Australia, 5Australian Prostate Cancer Research Centre Queensland / Queensland University of Technology, Translational Research Institute, Brisbane, QLD, Australia, 6Translational Cell Imaging Queensland, Institute of Health and Biomedical Innovation, Queensland University of Technology, Translational Research Institute, Brisbane, Australia, 7Institute of Molecular and Cell Biology, A*STAR (Agency for Science, Technology and Research), Singapore

01-2 DETECTION OF ESR1 MUTATIONS IN THE PERIPHERAL CIRCULATION OF PATIENTS RECEIVING Z-ENDOXIFEN FOR HORMONE REFRACtory METASTATIC BREAST CANCER
M.C. Liu1, K. Haselkorn1, J. Wu1, V.J. Suman1, M. Kuffel1, B.R. Kipp1, W.E. Highsmith, Jr.1, J.N. Ingle1, M.P. Goetz1, 2, 3, 4
1Department of Oncology, Mayo Clinic, Rochester, MN, USA, 2Molecular Genome Facility; Mayo Clinic, Rochester, MN, USA, 3Department of Health Sciences Research, Mayo Clinic, Rochester, MN, USA, 4Department of Molecular Pharmacology & Experimental Therapeutics; Rochester, MN, USA, 5Department of Laboratory Medicine and Pathology; Mayo Clinic, Rochester, MN, USA

01-3 TOWARDS LIQUID PROFILING OF MELANOMA – SUITABILITY FOR FIRST-LINE ASSESSMENT OF TUMOR MUTATIONAL STATUS AND TO MONITOR TARGETED THERAPY
V. Haselmann1, C. Gebhardt2, 3, I. Brechtel1, A. Duda1, A. Sucker1, T. Holland-Letz2, J. Utikal2, 3, D. Schadendorf2, M. Neumaier1
1Department of Clinical Chemistry, University of Mannheim Hospital, Mannheim, Germany, 2German Cancer Research Center (DKFZ), Skin Cancer Unit, Heidelberg, Germany, 3Department of Dermatology, Venerology and Allergology, University of Mannheim Hospital, Mannheim, Germany, 4Department of Dermatology, University of Essen Hospital, Essen, Germany, 5German Cancer Research Center (DKFZ), Department of Biostatistics, Heidelberg, Germany

01-4 CIRCULATING TUMOR CELLS, TUMOR DERIVED EXTRACELLULAR VESICLES AND PLASMA CYTOKERATINS IN CASTRATION-RESISTANT PROSTATE CANCER PATIENTS
A. Nanay1, G. van Dalum2, L. Zeune3, F. AW Coumans5, W. Onstenk4, M. Crespo2, M.S. Fontes2, P. Rescigno2, G. Fowler1, P. Flohr4, C. Brune6, S. Sleijfer6, J. de Bono2, L. WMN Terstappen1
1Department of Medical Cell BioPhysics, MIRA Institute, University of Twente, Enschede, the Netherlands, 2Department of General, Vascular and Pediatric Surgery, University Hospital and Medical Faculty of the Heinrich-Heine University, Düsseldorf, Germany, 3Department of Biomedical Engineering and Physics, Academic Medical Center, University of Amsterdam, The Netherlands, 4Department of Medical Oncology, Erasmus MC – Cancer Institute, Rotterdam, The Netherlands, 5Institute of Cancer Research, Royal Marsden Hospital, London, United Kingdom, 6Department of Applied Mathematics, MIRA Institute and Faculty of EEMCS, University of Twente, Enschede, the Netherlands

01-5 PD-L1 AND PD-1 EXPRESSION IN CIRCULATING TUMOR CELLS (CTCs) ISOLATED FROM CHEMOTHERAPY NAÏVE AND ADVANCED NON-SMALL CELL LUNG CANCER (NSCLC) PATIENTS
G. Kallergi1, 2, D. Aporakiki1, E.K. Vetsika1, E. Lagoudaki1, A. Koutsopoulos4, F. Koinis1, P. Katsarinos1, A. Voumvouraki, M. Trypakii1, C. Stournaras1, V. Georgoulas1, A. Kotsakis1
1Laboratory of Tumor Cell Biology, School of Medicine, University of Crete, Heraklion, Greece, 2Department of Biochemistry, University of Crete Medical School, Heraklion, Crete, Greece, 3Laboratory of Translational Oncology, School of Medicine, University of Crete, Heraklion, Greece, 4Department of Medical Oncology, University General Hospital of Heraklion, Crete, Greece, 5Department of Pathology, University General Hospital of Heraklion, Crete, Greece

01-6 GENOMIC PROFILING OF CIRCULATING TUMOR CELLS IN PATIENTS WITH ERBB2 MUTANT, HER2 NON-AMPLIFIED METASTATIC BREAST CANCER TREATED WITH HERATINIB
S.N. Shishido1, R. Masson1, L. Welter1, A. D’Souza2, D. Spencer3, Y. Jiang4, L. Eli3, R. Cutler1, J. Lu1, J. Hicks1, P. Kuhn1
1The Bridge Institute, University of Southern California, Dornsife College of Letters, Arts and Sciences, 3430 S. Vermont Ave., TIF 125, Los Angeles, CA 90089, USA, 2USC Norris Comprehensive Cancer Center, University of Southern California, Keck School of Medicine, 1441 Eastlake Ave., Los Angeles, CA 90033, USA, 3Puma Biotechnology, Inc. 10880 Wilshire Blvd. Suite 2150, Los Angeles, CA 90024, USA

01-7 EXPLORING METASTATIC BREAST CANCER CTC DIVERSITY AND THERAPY RESPONSE BY SINGLE CELL ANALYSES
L.M. Becker1, 2, S.F. Haas2, 3, L. Velten3, C.S. Tu1, J. Panten1, R. Würth1, 2, M. Saini1, M. Becker1, L. Michel4, F. Marmé5, L. Steinmetz5, M. Sprick3, 4, A. Trumpf1, 2, 3, 4
1Heidelberg Institute for Stem Cell Technology and Experimental Medicine gGmbH, Heidelberg, Germany, 2Division of Stem Cells and Cancer, German Cancer Research Center (DKFZ), Heidelberg, Germany, 3European Molecular Biology Laboratory (EMBL), Genome Biology Unit, Heidelberg, Germany, 4National Center for Tumor Diseases, University Hospital Heidelberg, Heidelberg, Germany, 5German Cancer Consortium, Heidelberg, Germany, *These authors contributed equally to this work
O1-8 EVALUATION OF GENETIC MUTATIONS IN PLASMA cfDNA AND EXOSOMAL dsDNA: AS POTENTIAL BIOMARKER TOOL IN PEDIATRIC AML
E. Kontopoulou1,*, F. Kunz2,‡, C. Walter1, K. Reinhardt1, S. Strachan1, E.B. Borras1, K. Welte2, D. Reinhardt1, N. von Neuhoff1 and B.K. Thakur,§
1Department of Pediatric Hematology and Oncology, University Children’s Hospital of Essen, Essen, Germany; 2Department of Pediatric Hematology, Oncology and Bone Marrow Transplantation, University Children’s Hospital Tuebingen, Tuebingen, Germany, *Equal contribution, ‡Presenting author

O1-9 CTCs-DERIVED XENOGRAFT DEVELOPMENT FROM A TRIPLE NEGATIVE BREAST CANCER PATIENT
T. Pereira-Veiga1, D. Robledo2, M. Abreu3, C. Abuin4, L.S. Piñón5, X. Matías-Guiu6, M. Santacana1, R. López-López6,‡, L. Muñélo-Romay6,‡, C. Costa1,‡
1Roche-Chus Joint Unit, University Hospital of Santiago. Travesía da Choupana s/n 15706 Santiago de Compostela, Spain, 2The Roslin Institute and Royal (Dick) School of Veterinary Studies, The University of Edinburgh, Midlothian, EH25 9RG (UK), 3Liquid Biopsy Analysis Unit, Oncomet, Health Research Institute of Santiago (SERGAS), Complexo Hospitalario Universitario de Santiago de Compostela (SERGAS); Trav. Choupana s/n, Santiago de Compostela 15706 (Spain), *Department of zoology, genetics and physic anthroplogy, University of Santiago de Compostela (Spain), 4Department of Pathology and Molecular Genetics/Oncologic Pathology Group, Arnau de Vilanova University Hospital, University of Lleida, CIBERONC, IRBLleida, Lleida, (Spain), 5CIBERONC, Centro de Investigación Biomédica en Red Cáncer, Madrid (Spain), 6Department of Pathology, and Molecular Genetics/Oncologic Pathology Group, Arnau de Vilanova University Hospital, University of Lleida, CIBERONC, IRBLleida, Lleida, (Spain), *Equal contribution,

DAY 3: Friday, October 6

08:30 – 12:00 Plenary Lecture Session 4:
Recent Advances on the Isolation, Enumeration and Molecular Characterization of CTCs
Chairing: Françoise Farace & Peter Kuhn

08:30 – 09:00 PL4-1
“Recent Advances in the Isolation and Molecular Characterization of Circulating Tumor Cells”
Leon Terstappen, Professor, Faculty of Science and Technology, MIRA Research Institute, Department of Medical Cell BioPhysics, University of Twente, Enschede, the Netherlands

09:00 – 09:30 PL4-2
“Capture, Interrogation and Culture of Viable CTC: Strategies for the Development of a Transformative Tool to Understand Cancer”
Richard J. Cote, MD, FCRPath, FCAP, University of Miami Miller School of Medicine, USA

09:30 – 10:00 PL4-3
“In vitro expansion of colon Circulating Tumor Cells: Molecular portrait of metastasis-competent CTCs”
Catherine Aix-Panabières, Laboratoire Cellules Circulantes Rares Humaines - LCCRH, Institut de Recherche en Biothérapie - IRB , Hôpital Saint-Eloi - CHRU Montpellier, France

10:00 – 10:30 Networking Coffee Break in the Exhibition Hall
Chairing: Richard Cote & Sabine Kasimir-Bauer

10:30 – 11:00 PL4-4
“Molecular Analysis of Circulating Tumor Cells and Clinical Applications”
Sunita Nagrath, Associate Professor of Chemical Engineering, University of Michigan, Ann Arbor, USA

11:00 – 11:30 PL4-5
“No-Cell-Left-Behind: tracing the temporal evolution in cancer”
Peter Kuhn, Professor, USC Dornsife, Los Angeles, CA, USA

11:30 – 12:00 PL4-6
“Development and clinical evaluation of multiplex molecular assays for CTC molecular characterization”
Evi Lianidou, Professor, ACTC Lab, Dept. of Chemistry, University of Athens, Greece

12:00 – 13:30 Lunch Break

13:30 – 15:00 POSTER SESSION 3 and Networking Coffee Break in the Exhibition Hall

15:00 – 16:30 ORAL PRESENTATIONS, Session 2
Chairing: Dimitris Mavroudis & Bjørn Naume
02-1

THE GENETIC HETEROGENEITY AND THE MOLECULAR EVOLUTION OF SYSTEMIC METASTATIC CASTRATION RESISTANT PROSTATE CANCER DURING THERAPY

R. PL. Neves1, A. L.R.F. Streit1, K. Raba1, E.-K. Bongers1, B. Behrens1, P. Flohr2, J. Mateo2, S. Sumanasuriya3, M. Crespo4, B. Ebbs5, G. Fowler6, S. Carreira5, M.B. Lambros6, J. de Bono6, N.H. Stoecklein7

1Department of General, Visceral and Pediatric Surgery, 2Institute for Transplantation Diagnostics and Cell Therapeutics, University Hospital and Medical Faculty of the Heinrich-Heine University Düsseldorf, Düsseldorf, 40225, Germany; 3Division of Cancer Therapeutics and Division of Clinical Studies, The Institute of Cancer Research, London, SM2 5NG, United Kingdom; Drug Development Unit, The Royal Marsden NHS Foundation Trust, London, SW3 6JJ, United Kingdom

02-2

MULTICENTER EVALUATION OF miRNA EXTRACTION TECHNOLOGIES FOR THE DEVELOPMENT OF A CLINICALLY-RELEVANT miRNA ANALYSIS WORKFLOW


1German Cancer Consortium (DKTK), partnersite Berlin; 2Charité Universitätsmedizin Berlin, Institute for Transplantation Diagnostics and Cell Therapeutics, University Hospital and Medical Faculty of the Heinrich-Heine University Düsseldorf, Düsseldorf, 40225, Germany; 3Division of Cancer Therapeutics and Division of Clinical Studies, The Institute of Cancer Research, London, SM2 5NG, United Kingdom; Drug Development Unit, The Royal Marsden NHS Foundation Trust, London, SW3 6JJ, United Kingdom

02-3

INTERNATIONAL MULTI INSTITUTIONAL EVALUATION OF A HIGH SENSITIVE NGS ASSAY FOR LIQUID BIOPSY MUTATION DETECTION IN LUNG CANCER

C. Vollbrecht1,2, J.L. Costa1, R. Weren1, A.M. Rachiqio1, A. Maffcini1, H. Kurth2, A. Reiman3, D. Le Corre4, A. Boag5, K. Nishio5, H.E. Felittow6, P. Laurent-Puig7, O. Shells8, A. Scarpa9, M. Lichtenberg10, I.A. Cree11, J.C. Machado12, N. Normanno13, M. Hummel14

1German Cancer Consortium (DKTK), partnersite Berlin; 2Charité Universitätsmedizin Berlin, Institute for Transplantation Diagnostics and Cell Therapeutics, University Hospital and Medical Faculty of the Heinrich-Heine University Düsseldorf, Düsseldorf, 40225, Germany; 3Division of Cancer Therapeutics and Division of Clinical Studies, The Institute of Cancer Research, London, SM2 5NG, United Kingdom; Drug Development Unit, The Royal Marsden NHS Foundation Trust, London, SW3 6JJ, United Kingdom

02-4

A NEW MICROARRAY APPROACH FOR ULTRA-SENSITIVE GENOTYPING OF KRAS GENE VARIANTS IN COLORECTAL CANCER

M. Chiari1, S.A. Joosse1, M. Riethdorf1, T.M. Gorges1, K. Pantel1

1Department of Tumor Biology, Center of Experimental Medicine, University Medical Center Hamburg-Eppendorf; 2Department of Hematology, Oncology and Bone Marrow Transplantation with section Pneumology, Hubertus Wald Tumorzentrum, University Comprehensive Cancer Center Hamburg, University Medical Center Hamburg-Eppendorf, 3Department of Gynecology, University Medical Center Hamburg-Eppendorf

02-5

NANOPARTICLE BLOOD CIRCULATION SCAVENGERS FOR PROTEOMIC BIOMARKER DISCOVERY IN OVARIAN CARCINOMA PATIENTS

M. Hadidemetriou1, K. Kostarelos2

1Nanomedicine Lab, Faculty of Biology, Medicine and Health & National Graphene Institute, University of Manchester, Manchester M13 9NT, United Kingdom

02-6

COMPREHENSIVE COMPARISON AND STANDARDIZATION OF A LABEL INDEPENDENT CIRCULATING TUMOR CELL (CTC) ENRICHMENT PLATFORM

C. Hille1, S.A. Joosse1, M. Janning1,2, V. Müller3, S. Loges4, C. Coith1, S. Riethdorf1, T.M. Gorges1, T.M. Gorges1, K. Pantel1

1Department of Tumor Biology, Center of Experimental Medicine, University Medical Center Hamburg-Eppendorf; 2Department of Hematology, Oncology and Bone Marrow Transplantation with section Pneumology, Hubertus Wald Tumorzentrum, University Comprehensive Cancer Center Hamburg, University Medical Center Hamburg-Eppendorf, 3Department of Gynecology, University Medical Center Hamburg-Eppendorf

02-7

CAN CTC CLUSTERS TRAVERSE CAPILLARIES?

S.H. Au1, B.D. Storey1, J.C. Moore1, Q. Tang1, Y.-L. Chen1, S. Javid1, A.F. Sarigulno1, R.J. Sullivan1, M.W. Madden1, R. O’Keefe2, D.A. Haber3, S. Maheswaran3, D.M. Langenau4, S.L. Stott5, M. Toner1

1Center for Engineering in Medicine, Massachusetts General Hospital, Harvard Medical School, Boston, USA; 2Olin College, Needham, USA, 3Massachusetts General Hospital Cancer Center, Harvard Medical School, Charlestown, USA, 4Institute of Physics, Academia Sinica, Taipei, Taiwan

02-8

CIRCULATING TUMOUR CELLS USED TO INVESTIGATE TUMOUR MOLECULAR STATUS AND HETEROGENEITY IN SMALL CELL LUNG CANCER

B. Mesquita1, D.G. Rothwell1, S. Gulati1, F. Fernandez-Gutierrez2, H.S. Leong2, D.J. Burt1, D. Slane-Tan1, F. Chemi1, M. Carter1, L. Carter1, S. Mohan1, M. Ayub1, L. Priest1, C. Miller2, F. Blackhall1

1Nucleic Acid Biomarker Laboratory, Clinical and Experimental Pharmacology, Cancer Research UK Manchester Institute, Manchester, UK, 2RNA Biology Group/ Computational Biology, Cancer Research UK Manchester Institute, Manchester, UK, 3Christie NHS Foundation Trust, Manchester, UK
### DAY 4: Saturday, October 7

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<td>08:30 – 12:30</td>
<td>Plenary Lecture Session 5: Circulating tumor DNA and exosomes in clinical practice</td>
<td>Alberto Bardelli &amp; Michail Ignatiadis</td>
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<td>09:00 – 09:30</td>
<td>“Regulatory Science Considerations for Utilizing Liquid Biopsies in Drug and Diagnostics Development: The Promise and Value of Public-Private Partnerships”</td>
<td>Gary J. Kelloff, MD, Special Advisor, CIP, DCTD, National Cancer Institute, NIH, USA</td>
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<td>09:30 – 10:00</td>
<td>“Liquid biopsy for drug development in breast cancer”</td>
<td>Michail Ignatiadis, Ass. Professor, Jules Bordet Institute, Brussels, Belgium</td>
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<td>10:00 – 10:30</td>
<td>“Strategies to Exploit the Biology of Exosomes for Diagnosis and Treatment of Cancer”</td>
<td>Raghu Kalluri, MD, PhD, Department of Cancer Biology, Metastasis Research Center, University of Texas MD Anderson Cancer Center, Houston, TX, USA</td>
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<td>10:30 – 11:00</td>
<td>Networking Coffee Break in the Exhibition Hall</td>
<td>Evi Lianidou &amp; Dave Hoon</td>
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<td>11:00 – 11:30</td>
<td>“Towards the use of plasma DNA for cancer screening”</td>
<td>Dennis Lo, Professor, Li Ka Shing Institute of Health Sciences, The Chinese University of Hong Kong, Shatin, New Territories, Hong Kong SAR, China</td>
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<td>11:30 – 12:00</td>
<td>“Liquid biopsies and cancer evolution”</td>
<td>Alberto Bardelli, PhD, Institute for Cancer Research and Treatment, Department of Oncology, University of Torino, Candiolo, Italy</td>
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<td>12:00 – 12:30</td>
<td>“Novel clinical applications of cancer genetics for therapy and diagnosis”</td>
<td>Luis Diaz, Head, Division of Solid Tumor Oncology at Memorial Sloan Kettering Cancer Center, NY, USA</td>
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<td>12:30 – 13:30</td>
<td>Lunch Break</td>
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O3-1 RNA PROFILES OF CIRCULATING TUMOR CELLS AND EXTRACELLULAR VESICLES FOR THERAPY STRATIFICATION OF METASTATIC BREAST CANCER PATIENTS

C. Keup1, S. Hauch2, M. Sprenger-Haussels2, P. Mach1, M. Tewes1, B. Aktas1, H.-C. Kolberg1, R. Kimmig1, S. Kasimir-Bauer1

1Department of Gynecology and Obstetrics; University Hospital Essen, Germany; 2QIAGEN GmbH, Hilden, Germany; 3Department of Internal Medicine (Cancer Research), University Hospital Essen, Germany; 4Clinic for Gynecology and Obstetrics, Marienhospital Bottrop, Germany

O3-2 TUMOR-INITIATING CELL CHARACTERISTICS OF NON-SMALL CELL LUNG CANcer (NSCLC) CIRCULATING TUMOR CELLS (CTCs) INFERRED FROM CTC-DERIVED XENOGRAFTS (CDX)

V. Faugeroux1,2, O. Deas1, C. Catelain2, J. Michels4, E. Pailler1,2, P. Queffelec1,2, A. Roziè1,2, F. Lucibello1,2, J.-G. Judde1, S. Cairo1, J.-Y. Scoazec1,2, V. Marty1, F. Billiot2, M. NgoCamus3, C. Nicotra3, J.-C. Soria3, L. Mezquita1, D. Planchar1, B. Besse1, P. Kannouche1, F. Farace1,2


O3-3 miRNA EXPRESSION OF EXOSOMES IN BREAST CANCER DIAGNOSIS

D. de Miguel-Pérez1,2*, A. Rodríguez-Martínez1,2*, M. Martínez-Ruiz1, F.G. Ortega1, J.L. García-Puche1,3, I. Robles1, J. Expósito4, P. Carmona1, J.A. Lorente1,2, M.J. Serrano1

1Liquid biopsy and metastasis research group, GENYO. Centre for Genomics and Oncological Research. Pfizer/University of Granada/Andalusian Regional Government. Granada, Spain. 2Department of legal medicine. Faculty of Medicine. University of Granada. Granada, Spain. 3Integral Oncology Division. Clinical University Hospital. Granada, Spain. 4Radiation Oncology Department. Virgen de las Nieves University Hospital. Granada, Spain. *These authors contributed equally to this work

14:00 – 16:00 Plenary Lecture Session 6:
Future Challenges in Liquid Biopsies
Presentations of Liquid Biopsy Consortia in Europe and US
Chairing: Klaus Pantel & Leon Terstappen

14:00 – 14:30 Europe: “The Cancer – ID project: Cancer treatment and monitoring through identification of circulating tumour cells and tumour related nucleic acids in blood”

Thomas Schlaenger, PhD, Senior Biomarker Scientist, Global Biomarker Research, Bayer Pharma
ACTC 2017 Posters

Wednesday October 4, 13:30-15:00, Session 1

P-1. MOLECULAR PORTRAIT OF METASTASIS-COMPETENT CIRCULATING TUMOR CELLS IN COLORECTAL CANCER REVEALS THE CRUCIAL ROLE OF GENES REGULATING ENERGY METABOLISM AND DNA REPAIR

C. Aix-Panabieres1,2, I. Cayrefourc’q1,2, T. Mazar’d, T. Maedelonde3,2, E. Assenat4, S. Assou1,3

1Laboratory of Rare Human Circulating Cells, Department of Cellular and Tissue Biopathology of Tumors, University Medical Centre, Montpellier, France, 2EA2415 – Help for Personalized Decision: Methodological Aspects, University Institute of Clinical Research (IURC), University of Montpellier, Montpellier, France, 3Department of Medical Oncology, Institut du Cancer a`, Montpellier (ICM), France, 4Institut du Cancer Montpellier (ICM), Montpellier, France, 5Laboratory of Hormonal and Cell Biology, University Medical Centre, Montpellier, France, 6Department of Medical Oncology, University Medical Centre, Montpellier, France, 7University of Medicine and University Hospital Carl Gustav Carus, Technische Universität Dresden, Germany, 8Department of Medical Oncology, University Hospital and Medical Faculty of the Heinrich-Heine University, Duesseldorf, Germany

P-2. CYTOKINE-BASED PREDICTIVE BIOMARKERS FOR PROSTATE CANCER RADIOSENSITIVITY

C. Peitsch1,2,3, M. Baumbach1, H. Neubauer7, F. Lohus1, A. Linge3,5, M. Cojoc1, L. Hein2, I. Kurth6, M. Baumann1,2,3,4,5, M. Krause1,2,3,4,6, A. Dubrovsk3a,4,5

1OncoRay - Center for Radiation Research in Oncology, Faculty of Medicine and University Hospital Carl Gustav Carus, Technische Universität Dresden, Germany, 2National Center for Tumor Diseases (NCT), Dresden, Germany, 3German Cancer Consortium (DKFZ), Heidelberg, Germany, 4Institute of Toxicology and Genetics (ITG), Hermann-von-Helmholtz-Platz 1, Bau 304, 73764 Eggenstein-Leopoldshafen, Germany, 5Institute for Medical Informatics, Albert-Schweizer-Campus 1, Münster, Germany, 6Section Tumor Biology, Department of Otolaryngology-Head and Neck Surgery, Cancer Center Amsterdam, Amsterdam, The Netherlands, 7University of Medicine and University Hospital Carl Gustav Carus, Technische Universität Dresden, Germany

P-3. EVALUATION OF THE DETECTION OF TOLL-LIKE RECEPTORS IN CANCER DEVELOPMENT AND PROGRESSION IN PATIENTS WITH COLORECTAL CANCER

I. Messaritakis1, M. Stogiannitsi1, M. Sfakianaki1, A. Koulouridi2, A. Sotiriou1, G. Evangelou1, D. Mavroudis1,2, J. Souglakos1,2

1Laboratory of Translational Oncology, Medical School, University of Crete, Heraklion, Crete, Greece, 2Department of Internal Medicine B, Venzeilo Pananeio General Hospital, Heraklion, Crete, Greece

P-4. FREQUENT EXPRESSION OF PD-L1 ON CIRCULATING BREAST CANCER CELLS

M. Maze1,2, W. Jacot1, K. Pantel1, K. Bartkowiak1, D. Topart3, L. Cayrefourc’q1,2, D. Rossille3,4, T. Maedelonde2,4, T. Fest4, C. Aix-Panabieres1,2

1Laboratory of Rare Human Circulating Cells, Department of Cellular and Tissue Biopathology of Tumors, University Medical Centre, Montpellier, France, 2EA2415 e Help for Personalized Decision: Methodological Aspects, University Institute of Clinical Research (IURC), Montpellier University, Montpellier, France, 3Department of Medical Oncology, Montpellier Cancer Institute (ICM), Montpellier, France, 4Department of Tumor Biology, University Medical Centre Hamburg-Eppendorf, Hamburg, Germany, 5University Medical Centre, Saint-Eloi Hospital, Department of Medical Oncology, Montpellier, France, 6INSERM U1183; Institute for Regenerative Medicine and Biotherapy, CHU Montpellier, Saint-Eloi Hospital, Montpellier, France

P-5. ENRICHMENT, ISOLATION AND PIK3CA MUTATIONAL ANALYSIS OF PATIENT-MATCHED EPCAMHIGH/NEGATIVE AND EPCAMLOW/NEGATIVE CTCs IN METASTATIC BREAST CANCER

R. Lampignano1, L. Yang1, A. Franken1, D. Köhler1, T. Fehm1, N. Diederacher1, H. Neubauer1

1Department of Obstetrics and Gynecology, University Hospital and Medical Faculty of the Heinrich-Heine University, Duesseldorf, Germany

P-6. CIRCULATING TUMOR CELLS REVEAL THE GENETIC EVOLUTION OF METASTATIC BREAST CANCER

A. Babayan1, K. Prieske2, D. Indenbirken1, M. Alawi1, A. Grundhoff2, V. Müller1, K. Pantel1, S.A. Jooss3

1Department of Tumor Biology, 2Department of Gynecology, 3Heinrich-Pette-Institute, Leibniz-Institute for Experimental Virology (HPI), Hamburg, Germany, 4Bioinformatics Core Facility, University Medical Center Hamburg-Eppendorf, Hamburg, Germany

P-7. SINGLE CELL PROFILING OF HNSCC IDENTIFIES A GENE-SIGNATURE AT 8q24 WHICH IS CONNECTED TO PROMOTING METASTASIS

B. Behrens1, R. Neves1, K. Roensch4, G. Flügen5, M. Beier4, C. Bartenhagen6, S.E. Baldus1, R.H. Brakenhoff2, N.R. Kübler2, W.T. Kneefel1, J. Steeman3, K.C. Sproll4, N.H. Stocke1

1Department of General, Visceral and Pediatric Surgery, 2Department of Cranio- and Maxillofacial Surgery, Westdeutsche Kieferklinik, 3Institute for Pathology, 4Department of Human Genetics, Heinrich-Heine University of Düsseldorf, 40225 Düsseldorf, Germany, 5Institute for Toxicology and Genetics (ITG), Hermann-von-Helmholtz-Platz 1, Bau 304, 73764 Eggenstein-Leopoldshafen, Germany, 6Institute for Medical Informatics, Albert-Schweizer-Campus 1, Münster, Germany, 7Section Tumor Biology, Department of Otolaryngology-Head and Neck Surgery, Cancer Center Amsterdam, Amsterdam, The Netherlands, 8INSERM U1183; Institute for Regenerative Medicine and Biotherapy, CHU Montpellier, Saint-Eloi Hospital, Montpellier, France

P-8. SINGLE CELL SEQUENCING REVEALS TUMOR HETEROGENEITY AND CLONALITY IN A CASE OF TREATMENT-NAÏVE DE NOVO POLYMETASTATIC PROSTATE CANCER

P.D. Malihi1, M. Morikado1, L. Welter1, S.T. Liu1, E.T. Miller2, R.M. Cadaneanu2, B.S. Knudsen1, M. Lewis2, A. Carlson1, C.R. Velasco1, A. Kolatkar1, M.R. Lee1, I. Garraway2, J. Hicks1, P. Kuhn1

1Bridge Institute, University of California Los Angeles, Los Angeles, California, USA, 2Department of Urology, University of California Los Angeles, Los Angeles, California, USA

P-9. EVALUATION OF MICROTENTACLES ON CIRCULATING TUMOR CELLS (CTCs); INTERACTION BETWEEN CTCs AND BLOOD CELLS THROUGH CYTOSKELETAL PROTEINS

G. Kallergi1,2, S.S. Martin2, D. Aggouraki1, C. Stournaras1, V. Georgoulis1

1Laboratory of Tumor Cell Biology, School of Medicine, University of Crete, Heraklion, Greece, 2Department of Biochemistry, University of Crete Medical School, Heraklion, Greece, 3Marine and Stewart Greenebaum Cancer Center, University of Maryland, School of Medicine, Department of Physiology, 655 W. Baltimore Street, Baltimore, Maryland, USA
P-10. OVEREXPRESSION OF TRANSFERRIN RECEPTOR 1 (TFR1) IN CTCs IS A POOR PROGNOSTIC FACTOR FOR BREAST CANCER PATIENTS
1Laboratory of Tumor Cell Biology, School of Medicine, University of Crete, Heraklion, Greece, 2Department of Biochemistry, School of Medicine, University of Crete, Heraklion, Greece, 3Department of Medicine, Division of Hematology / Oncology, Weill Cornell Medicine, New York, NY, 4Department of Cardiothoracic Surgery, Weill Cornell Medicine, New York, NY

P-11. THE ISOLATION OF TUMORIGENIC CANCER CELLS FROM BLOOD USING PORE MIGRATION AND TUMORSosphere CULTURE
U.K. Veeramallu
VigilDX, LLC, San Diego, CA, U.S.A.

P-12. ESTABLISHMENT AND CHARACTERIZATION OF A CIRCULATING TUMOR CELL-DERIVED XENOGRAFT (CDX) IN PROSTATE CANCER
1INSERM, U981 “Identification of Molecular Predictors and new Targets for Cancer Treatment”, F-94805, VILLEJUIF France; 2XenTech, F-91000, EVRY France; 3Medical Cell Biophysics Group, MIRA Institute for Biomedical Engineering and Technical Medicine, Faculty of Science and Technology, University of Twente, 7522 NB Enschede, The Netherlands; 4Gustave Roussy, Université Paris-Saclay, Department of Cell Therapy, F-94805, VILLEJUIF France; 5Department of General, Visceral and Pediatric Surgery, Medical Faculty Hospital of the Heinrich-Heinrich-University Düsseldorf, Germany; 6Gustave Roussy, Université Paris-Saclay, Experimental and translational Pathology Platform, CNRS UMS3655 – INSERM U523 AMMICA, F-94805, VILLEJUIF France; 7Menarini Silicon Biotherapy, The Greater Poland Cancer Center, Poznan, Poland; 8University of Medical Sciences, Poznan, Poland

P-13. MOLECULAR ANALYSIS OF THE MSC-FACILITATED DERIVATION OF NOVEL CTC VARIANT FROM THE TNBC CELL LINE
S. Miklikova1, J. Piava1, M. Matuskova1, M. Mego2, L. Kucerova1
1Laboratory of Molecular Oncology, Cancer Research Institute of Biomedical Research Center, Slovak Academy of Sciences, Bratislava, Slovakia, 2Translational Research Unit, National Cancer Institute, Bratislava, Slovakia

P-14. THE USE OF MESENCHYMAL STEM CELLS DERIVED FROM THE WHARTON’S JELLY AS A NOVEL APPROACH FOR CANCER TREATMENT
M. Goulielmaki, M. Devetzi, M. Adamaki, I. Christodoulou, V. Zoumpourlis
Institute of Biology, Medicinal Chemistry & Biotechnology (IBMCB), National Hellenic Research Foundation (NHRF), 48 Vasileos Konstantinou Ave., 11625 Athens, Greece

P-15. INHIBITING EMT: THERAPEUTIC INTERVENTION IN BLADDER CARCINOMA
W. JingSim1, A.H.Chun Ng2, J.P. Thierry2
1Biomedical Institute for Global Health Research and Technology (BIGHEART), Singapore, Singapore, 2Institute of Molecular and Cell Biology, Agency for Science, Technology and Research, Singapore, Singapore

P-16. PHENOTYPIC HETEROGENEITY OF DISSEMINATED TUMOR CELLS IS PRESET BY PRIMARY TUMOR HYPOXIC MICROENVIRONMENTS
1Department of Medicine and Department of Otolaryngology, Tisch Cancer Institute, Black Family Stem Cell Institute. Mount Sinai School of Medicine, One Gustave L. Levy Place, New York, NY 10029, 4Department of General-, Visceral- and Pediatric Surgery, University Clinic Düsseldorf, Düsseldorf, Germany, 3Department of Anatomy and Structural Biology, Albert Einstein College of Medicine, 1300 Morris Park Avenue, Bronx, NY 10461, 5SUNY College of Nanoscale Science and Engineering, Albany, NY 12203, 2Laboratory for Optical and Computational Instrumentation, Laboratory of Cell and Molecular Biology, University of Wisconsin-Madison, Madison WI 53706

P-17. ANALYSIS OF EPITHELIAL-MESENCHYMAL TRANSITION IN GYNECOLOGICAL CANCER PATIENTS’ BLOOD
P. Bialas1, M. Kubiczak1, A. Szczerba1, K. Adamska2-3, A. Jankowska1
1Department of Cell Biology, Poznan University of Medical Sciences, Poznan, Poland, 2Department of Radiotherapy, The Greater Poland Cancer Center, Poznan, Poland, 3Department of Electroradiology, Poznan University of Medical Sciences, Poznan, Poland

P-18. METHYLATION OF TRANSCRIPTED-ULTRA CONSERVED REGIONS IN COLORECTAL CANCER AND THEIR DIAGNOSTIC VALUE
E. Ketterou1, A.G. Antonacopoulu1, F.-I.D. Dimitrakopoulos1, M. Kalofonou1-2, G. Diamantopoulou3, T. Theodorakopoulos1, C. Oikonomou1, E.C. Katsakouli2, T. Makatsoris1, N. Dimopoulos1, G. Stephanou1, M. Stavropoulos1, K.C. Thomopoulos2, H.P. Kalofonos1,3
1Clinical and Molecular Oncology Laboratory, Division of Oncology, Medical School, University of Patras, Greece. 2Division of Gastroenterology, University Hospital of Patras, Greece, 3Division of Oncology, University Hospital of Patras, Greece, 4Division of Genetics, Cell and Developmental Biology, Department of Biology, University of Patras, Greece, 5Department of Surgery, Medical School, University of Patras, Greece, 6Institute of Biomedical Engineering, Imperial College London, London, UK

P-19. CHROMOSOMAL ABERRATIONS ASSOCIATED WITH SEQUENTIAL STEPS OF THE METASTATIC CASCADE IN COLORECTAL CANCER PATIENTS
S.A. Joosse1, F.-R. Souche2, A. Babayan1, C. Gasch1, R.M. Kerkhoven2, J. Ramos4, J.-M. Fabre2, S. Riethdorf1,2, Y. Loriot1,2, A. König1,2, C. Nicotra2,3, T.E. McGraw3, C. Catelain2, E. Pailler1,2, K.C. Andree2, M.R. Padgen4, J.-Y. Scoazec3
1Laboratory of Tumor Cell Biology, School of Medicine, University of Crete, Heraklion, Greece, 2Department of Surgery, University Clinic Düsseldorf, Düsseldorf, Germany, 3Department of General-, Visceral-, and Pediatric Surgery, University Clinic Düsseldorf, Düsseldorf, Germany, 4Department of Anatomy and Structural Biology, Albert Einstein College of Medicine, 1300 Morris Park Avenue, Bronx, NY 10461, 5SUNY College of Nanoscale Science and Engineering, Albany, NY 12203, 6SUNY College of Nanoscale Science and Engineering, Albany, NY 12203, 7Laboratory for Optical and Computational Instrumentation, Laboratory of Cell and Molecular Biology, University of Wisconsin-Madison, Madison, WI 53706
Thursday October 5, 13:30–15:00, Session 2

P-20. MUTATIONAL ANALYSIS OF BRCA1 AND BRCA2 IN CIRCULATING-FREE DNA IN ADVANCED STAGE EPITHELIAL OVARIAN CANCER: A PROOF-OF-PRINCIPLE STUDY
L. Paracchini1, T. Grassi2, R. Frusciò2, L. Ceppi2, V. Fotia2, G. Siravegna2, A. Bardelli2, M. D’Incalci3, S. Marchini1
1Dept. Oncology, IRCCS “Mario Negri” Institute for Pharmacological Research, Milan, Italy, 2Division of Obstetrics and Gynecology, San Gerardo Hospital, University of Milan-Bicocca, Monza, Italy, 3Division of Oncology, Papa Giovanni XXIII Hospital, Bergamo, Italy.
2Dept. Molecular Oncology, IRCCS Candiolo Cancer Institute, Candiolo, Italy.

P-21. CORRELATION BETWEEN SINGLE TUMOR CELL SUBPOPULATIONS IN PRIMARY BREAST TUMORS AND TYPES OF CIRCULATING TUMOR CELLS
L. Tashieva1, O. Savelleva1, A. Isaeva1, N. Tarabanovskaya2, M. Buldakov3, E. Denisov3, M. Zavyalova1, V. Perelmuter1
1General and molecular pathology, Tomsk National Research Medical Center of the Russian Academy of Sciences, Tomsk, RU, 2Centre for Molecular Oncology, Tomsk National Research Medical Center of the Russian Academy of Sciences, Tomsk, RU, 3Molecular oncology and immunology, Tomsk National Research Medical Center of the Russian Academy of Sciences, Tomsk, RU.

P-22. CIRCULATING TUMOR CELLS AND CIRCULATING MEGAKARYOCYTES IN PROSTATE CANCER PROGNOSIS
L. Xu1,2,4, X. Mao1, T. Guo1, P.Y. Chan1, G. Shaw4, J. Hines2, E. Stankiewicz2, Y. Wang1, T. Oliver1, A. Ahmad2, D. Berney1, J. Shamash1, T. Grassi2, R. Fruscio2, L. Ceppi2, V. Fotia4
1Centre for Molecular Oncology, Barts Cancer Institute, Queen Mary University of London, London, UK, 2Department of Urology, Zhongshan Hospital, Fudan University, Shanghai, China, 3Department of Medical Oncology, Barts Health NHS, London, UK, 4Centre for Cancer Prevention, Wolfson Institute of Preventive Medicine, Queen Mary University of London, London, UK.

P-23. CLINICAL SIGNIFICANCE OF THE DETECTION PERIPHERAL-, TUMOR-DRAINING BLOOD AND BONE MARROW CEA AND CK20 MRNa POSITIVE CELLS DURING AND AFTER COLORECTAL CANCER SURGERY
J. Srovnal1, P. Skalicky1, D. Vrana1,2, A. Prokopova1, J. Drabek1, S. Jancík1, J. Vrbkova1, M. Vahalikova2, M. Duda2, K. Vyslozil2, I. Klementa2, L. Stary2, K. Cwiertka1,3, V. Sramek2, M. Hajduch1
1Institute of Molecular and Translational Medicine, Faculty of Medicine and Dentistry, Palacky University and University Hospital in Olomouc, Czech Republic, 2Department of Surgery, Faculty of Medicine and Dentistry, Palacky University and University Hospital in Olomouc, Czech Republic, 3Institute of Clinical and Molecular Pathology, Faculty of Medicine and Dentistry, Palacky University and University Hospital in Olomouc, Czech Republic.

P-24. DYNAMIC CHANGES OF DLL3-POSITIVE CIRCULATING TUMOR CELLS FROM PATIENTS WITH SMALL CELL LUNG CANCER DURING FRONT-LINE TREATMENT
I. Messaritakis1, M. Nikolau2, E. Politaki1, F. Koinis1, E. Lagoudaki2, A. Koutsopoulos3, V. Georgoulas1,4, A. Kotsakis1,5
1Laboratory of Tumor Cell Biology, School of Medicine, University of Crete, Greece, 2Department of Internal Medicine, Hippokration General Hospital of Athens, Greece, 3Department of Pathology, University General Hospital of Heraklion, 4First Department of Medical Oncology, IASO General Hospital of Athens, 5Department of Medical Oncology, University General Hospital of Heraklion, Crete, Greece.

P-25. PROGNOSTIC SIGNIFICANCE OF CEACAM5mRNA-POSITIVE CELLS DETECTION IN THE PERIPHERAL BLOOD OF PATIENTS WITH METASTATIC COLORECTAL CANCER
I. Messaritakis1, M. Sfakianaki1, C. Papadaki1, A. Koulouridi1, N. Vardakis2, F. Koinis2, D. Hatzidaki1, A. Kotsakis1,2, J. Souglakos1,2, V. Georgoulas1,2
1Laboratory of Tumor Cell Biology, Medical School, University of Crete, Heraklion, Crete, Greece, 2Department of Medical Oncology, University General Hospital of Heraklion, Crete, Greece.

P-26. DYNAMIC CHANGES OF PHENOTYPICALLY DIFFERENT CIRCULATING TUMOR CELLS SUB-POPULATIONS IN PATIENTS WITH RECURRENT/REFRACTORY SMALL CELL LUNG CANCER TREATED WITH PAZOPANIB
I. Messaritakis1, E. Politaki1, F. Koinis1, D. Stoltidis2, S. Apostolaki1, N. Vovolinis1, E.-K. Dermitzaki1, V. Georgoulas1,2, A. Kotsakis1,2
1Laboratory of Tumor Cell Biology, Medical School, University of Crete, Heraklion, Crete, Greece, 2Department of Medical Oncology, University General Hospital of Heraklion, Crete, Greece.

P-27. DYNAMIC CHANGES OF BCL2-POSITIVE CIRCULATING TUMOR CELLS FROM PATIENTS WITH SMALL CELL LUNG CANCER DURING FRONT-LINE TREATMENT
I. Messaritakis1, M. Nikolau2, E. Politaki1, F. Koinis1, E. Lagoudaki2, V. Georgoulas1,4, A. Kotsakis1,5
1Laboratory of Tumor Cell Biology, School of Medicine, University of Crete, Greece, 2Department of Internal Medicine, Hippokration General Hospital of Athens, Greece, 3Department of Pathology, University General Hospital of Heraklion, 4First Department of Medical Oncology, IASO General Hospital of Athens, 5Department of Medical Oncology, University General Hospital of Heraklion, Crete, Greece.

P-28. CLINICAL SIGNIFICANCE OF CIRCULATING/DISSEMINATED TUMOR CELLS PRESENCE IN PERIPHERAL, PULMONARY BLOOD AND BONE MARROW OF PATIENTS WITH NSCLC
A. Rehulkova1, A. Prokopova1, J. Srovnal1, M. Vidilarova1, J. Chudacek2, J. Vrbkova1, J. Skarda1, T. Bohanes2, J. Klein2,4, M. Hajduch1,4
1Institute of Molecular and Translational Medicine, Faculty of Medicine and Dentistry, Palacky University and University Hospital in Olomouc, Czech Republic, 2Department of Surgery, Faculty of Medicine and Dentistry, Palacky University and University Hospital in Olomouc, Czech Republic, 3Institute of Clinical and Molecular Pathology, Faculty of Medicine and Dentistry, Palacky University and University Hospital in Olomouc, Czech Republic, 4Department of Oncology, Faculty of Medicine and Dentistry, Palacky University and University Hospital in Olomouc, Czech Republic, 5Tomas Bata Regional Hospital, Zlin, Czech Republic.
P.30. ANALYSIS OF BLOOD MARKERS RELATED TO PROGNOSIS IN LOCALLY ADVANCED RECTAL CANCER
B. Troncarelli Flores1, V.S. Silva2, E.A. Abdallah1, A.C. Braun1, A.C.M. Urvanegia2, V.S. Alves1, S.A. Júnior1, A. Nanou1, A. Mentink-Leusink1, L. Terstappen1, L. Majunke1
1Biomedical Center, Faculty of Medicine in Pilsen, Charles University, Pilsen, Czech Republic, 2Bridge Institute, Dornife College of Letters, Arts and Sciences, University of Southern California, Los Angeles, California 90089, 3Department of Surgery, Faculty of Medicine and University Hospital in Pilsen, Charles University, Pilsen, Czech Republic, 4Department of Oncology and Radiotherapeutics, Faculty of Medicine and University Hospital in Pilsen, Charles University, Pilsen, Czech Republic, 5Department of Histology and Embryology, Faculty of Medicine in Pilsen, Charles University, Pilsen, Czech Republic.

P.31. EVALUATING THE CONSENSUS IN CIRCULATING TUMOR CELL SCORING
L. Zeune1,2, S. de Wit1, G. van Dalum4, K. Andre1, J. Swennenhuys1, A.E. Martinez1, A. Nanou1, A. Mentink-Leusink1, L. Terstappen1, L. Majunke1, A. Nanou1, A. Mentink-Leusink1, L. Terstappen1, L. Majunke1
1Biomedical Center, Faculty of Medicine in Pilsen, Charles University, Pilsen, Czech Republic, 2Bridge Institute, Dornife College of Letters, Arts and Sciences, University of Southern California, Los Angeles, California 90089, 3Department of Surgery, Faculty of Medicine and University Hospital in Pilsen, Charles University, Pilsen, Czech Republic, 4Department of Histology and Embryology, Faculty of Medicine in Pilsen, Charles University, Pilsen, Czech Republic.

P.32. VALIDATION OF CIRCULATING TUMOR CELLS (CTCs) AND CIRCULATING ENDOTHELIAL CELLS (CECs) AS BIOMARKERS IN CLEAR CELL RENAL CANCER
Y. Xia1, L.E. Lowes1, M. Vieto1, L. Kermanshah2, R. Mohamadi2, A. Kapoor3, S.O. Kelley4, A.L. Allain4
1London Health Sciences Centre, London, ON; 2University of Toronto, Toronto, ON; 3McMaster University, Hamilton, ON; and 4Western University, London, ON, Canada

P.33. CIRCULATING TUMOR CELLS IMPROVE STAGING OF PATIENTS WITH COLORECTAL LIVER METASTASES
N.N. Rahbari, M. Pecqueux, U. Bork, S. Schöch1, J. Weitz, C. Reissfelder
Department of Visceral, Thoracic and Vascular Surgery, University of Dresden, Germany

P.34. DETECTION OF CIRCULATING TUMOR CELLS AND CIRCULATING TUMOR DNA BEFORE AND AFTER MAMMOGRAPHIC COMPRESSION IN A COHORT OF BREAST CANCER PATIENTS SCHEDULED FOR NEO-ADJUVANT TREATMENT
K.E. Aaltonen1, D. Förnikvik1, Y. Chen1, A.M. George1, C. Brufer1, R. Rigo1, N. Loman1,2, L.H. Saal1, L. Rydén1,6
1Department of Clinical Sciences Lund, Division of Oncology and Pathology, Lund University, Lund, Sweden, 2Department of Translational Medicine, Medical Radiation Physics, Lund University, Malmö, Sweden, 3Skåne Department of Oncology, Skåne University Hospital, Lund, Sweden, 4Department of Clinical Sciences Lund, Division of Surgery, Lund University, Lund, Sweden, 5Department of Surgery and Gastroenterology, Skåne University Hospital, Malmö, Sweden

P.35. CORRELATION OF IMMUNE AND CIRCULATING TUMOR CELLS IN RESPECT TO PD-1 AND PD-L1 EXPRESSION DURING ANTI-PD-1 TREATMENT IN NON-SMALL CELL LUNG CANCER PATIENTS
E.-K. Vetsika1, D. Aggouraki1, G. Kallergi2, Z. Lyrliti1, A. Koukos1, D. Kourougklaouri1, K. Rounis2, V. Georgoulia1, A. Kotsakis1,3
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P.36. LONGITUDINAL MONITORING OF CIRCULATING TUMOR CELL CLUSTERS IN PATIENTS WITH METASTATIC BREAST CANCER SCHEDULED FOR 1ST LINE SYSTEMIC THERAPY
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P.37. CLINICAL UTILITY OF MOLECULAR ANALYSIS OF CIRCULATING TUMOR CELLS (CTCs) IN METASTATIC NASOPHARYNGEAL CARCINOMA (NPC) BY REAL-TIME SERIAL MONITORING
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P.38. CLINICAL USEFULNESS OF CTC ENUMERATION, EBV DNA, AND PET IMAGING FOR METASTATIC NASOPHARYNGEAL CARCINOMA
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P-40. USE OF CIRCULATING TUMOR CELLS AS BIOMARKERS FOR MONITORING HEPATOCELLULAR CARCINOMA LIVER TRANSPLANT PATIENTS
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P-41. IDENTIFICATION OF RESISTANCE MUTATIONS USING CIRCULATING TUMOR CELLS (CTCs) FROM ALK-RARRANGED NON-SMALL-CELL LUNG CANCER (NSCLC) PATIENTS TREATED WITH CRIZOTINIB
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P-42. DETECTION OF RESISTANCE MUTATIONS IN SINGLE CTCs FROM EGFR-MUTANT NON-SMALL CELL LUNG CANCER PATIENTS TREATED BY EGFR INHIBITORS
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P-43. UNIQUE INSIGHT INTO METASTASIS MUTATIONAL CONTENT THROUGH EXOME SEQUENCING OF CIRCULATING TUMOR CELLS IN METASTATIC PROSTATE CANCER
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P-44. ISOLATING CIRCULATING TUMOR CELLS AND CIRCULATING TUMOR DNA FROM PATIENTS WITH BRAIN CANCER
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P-45. EPIGENETIC PROFILE OF PATIENT-DERIVED SOLITARY CIRCULATING TUMOR CELLS
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P-46. METHYLATION ANALYSIS OF CANCER-ASSOCIATED GENES IN PLASMA CELL-FREE DNA: ASSOCIATIONS TO BREAST CANCER PROGNOSIS
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P-47. MONITORING OF TREATMENT RESPONSE IN NSCLC PATIENTS BY ENUMERATION OF CIRCULATING TUMOR CELLS
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P-48. ASSOCIATION OF CIRCULATING TUMOR CELLS, - VESICLES AND - DNA WITH OVERALL SURVIVAL IN NSCLC
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P-49. LIQUID BIOPSIES AND OVARIAN CANCER: DIAGNOSTIC AND PROGNOSTIC VALUE OF CIRCULATING TUMOUR CELLS
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P-50. BLOOD BASED BIOMARKERS FOR PROGNOSIS AND MONITORING OF PATIENTS WITH MELANOMA
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P-51. DNA METHYLATION BIOMARKERS IN THE WNT SIGNALING PATHWAY: PROGNOSTIC AND PREDICTIVE VALUE IN METASTATIC COLORECTAL CANCER PATIENTS
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P-52. MOLECULAR ANALYSIS OF EPCAM+ AND EMT CELLS FROM NSCLC PATIENTS BY LIQUID BIOPSY
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P-53. CIRCULATING miRNAs FOR THE DETECTION OF METASTASIS IN PATIENTS WITH BREAST CANCER
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P-54. EVALUATION OF THE CLINICAL SIGNIFICANCE OF CTCs CO-EXPRESSING STEMNESS AND MESENCHYMAL FEATURES IN METASTATIC BREAST CANCER
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P-55. ISOLATION AND MOLECULAR CHARACTERIZATION OF A NEGATIVE ENRICHED CTCs POPULATION IN METASTATIC BREAST AND PROSTATE CANCER PATIENTS BEFORE AND AFTER TREATMENT
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P-56. DETECTION AND MOLECULAR CHARACTERIZATION OF CIRCULATING TUMOR CELLS IN ADRENOCORTICAL CARCINOMA
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P-57. **EXPLORE TUMOUR HETEROGENEITY AND EVOLUTION IN NON- small cell lung cancer within the TRACERx study through molecular profiling of circulating tumour cells (CTCs)**

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P-58. **CIRCULATING TUMOR CELLS (CTCs) DETECTION AND BECLIN-1 EXPRESSION IN NSCLC UNDERGOING CHEMO-RADIOTHERAPY**

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P-59. **IMMUNOHISTOCHEMICAL DETECTION OF LYMPH NODE-DTCs IN PATIENTS WITH NODE-NEGATIVE HEAD AND NECK SQUAMOUS CELL CARCINOMA (pNO-HNSCC)**

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P-60. **EPITHELIAL PLASTICITY IN TRIPLE NEGATIVE BREAST CANCER DETECTING CIRCULATING TUMOR CELLS**

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P-61. **MOLECULAR CHARACTERIZATION OF CTCs FROM PATIENTS WITH ADVANCED NSCLC IS A VALUABLE STRATEGY TO PREDICT FIRST LINE CHEMOTHERAPY RESPONSE**

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P-62. **ASSESSMENT OF PLASMA CELL-FREE DNA LEVELS AND INTEGRITY IN CHEMO-NAÏVE PATIENTS WITH METASTATIC NSCLC**

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P-63. **TOWARDS LIQUID PROFILING OF MELANOMA – SUITABILITY FOR FIRST-LINE ASSESSMENT OF TUMOR MUTATIONAL STATUS AND TO MONITOR TARGETED THERAPY**

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P-64. **CIRCULATING TUMOR CELLS MEASURED IN THE PULMONARY VEIN AND THE RADIAL ARTERY DURING SURGERY OF EARLY NON-SMALL CELL LUNG CANCER**

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P-65. **DETECTION OF CIRCULATING TUMOR CELLS IN COLORECTAL CANCER PATIENTS USING THE GILUPI CELL COLLECTOR: RESULTS FROM A PROSPECTIVE SINGLE-CENTER STUDY**

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P-66. DETECTION OF ESR1 DS38G MUTATION IN CIRCULATING TUMOR CELLS (CTCs) AND PAIRED CIRCULATING TUMOR DNA (ctDNA) SAMPLES OF BREAST CANCER PATIENTS

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P-67. PIK3CA MUTATIONAL STATUS IN CIRCULATING TUMOR CELLS (CTCs) AND CORRESPONDING CIRCULATING TUMOR DNA (ctDNA) IN BREAST CANCER PATIENTS

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P-68. ESR1 METHYLATION IN PRIMARY TUMORS AND PAIRED CIRCULATING TUMOR DNA OF PATIENTS WITH HIGH-GRADE SEROUS OVARIAN CANCER

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P-69. PD-L1 EXPRESSION IN CIRCULATING TUMOR CELLS OF PATIENTS WITH HIGH-GRADE SEROUS OVARIAN CANCER

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P-70. AR-V7 STATUS AND CTC COUNT: A COMBINED BIOMARKER FOR THE BASELINE THERAPEUTIC DECISION IN EACH LINE OF mCRPC TREATMENT

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Friday October 6, 13:30-15:00, Session 3

P-71. POST-OPERATIVE SURVEILLANCE OF PATIENTS WITH COLORECTAL CANCER AFTER RADICAL RESECTION: A HIGHLY EFFICIENT MULTIGENE BIOCHIP IN COMPARISON WITH SERUM CARINOEMBRYONIC ANTIGEN LEVEL

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P-72. PARSOERTIX SYSTEM ENABLES ISOLATION OF VIABLE CTCs FROM LEUKAPHARESIS PRODUCT WITH SUBSEQUENT CULTURE

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P-73. ISOLATION AND CHARACTERIZATION OF HUMAN CIRCULATING TUMOR CELLS (CTCs) OF LUNG AND COLON CARCINOMAS

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P-74. VALIDITY OF AR-V7 UNEXPECTED RESPONDERS DETERMINED BY USING DISTINCT DETECTION TECHNOLOGIES

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P-75. DETECTION OF ANDROGEN RECEPTOR VARIANT 7 (AR-V7) IN PROSTATE CANCER CTCs USING PADLOCK PROBES

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Vortex Biosciences is developing next-generation liquid biopsy technologies that could modernize cancer diagnosis, monitoring and treatment. The Vortex XT21 Liquid Biopsy system is simple to use, benchtop system that harvests intact circulating tumor cells directly from whole blood samples for use in both research and clinical applications.
ALS is a world leader in image-based single cell isolation systems. Our CellCelector™ allows automated screening and recovery of rare single cells and clusters (e.g. circulating tumor cells) for their molecular characterization (e.g. NGS, RNA-Seq) or culturing. It combines high-resolution fast fluorescence imaging, sensitive cell detection technology, and a patented picking tool for fast and efficient recovery of 100% pure and intact cells. The system is compatible with various upstream enrichment technologies. A very gentle picking process allows the isolation of both live and fixed cells. The same platform can be used for automated isolation of cells from Cytospin slides as well as spheroids, colonies, and other cellular objects.

At Luminex, our mission is to empower labs to obtain reliable, timely, and actionable answers, ultimately advancing health. We offer a wide range of solutions applicable in diverse markets including clinical diagnostics, pharmaceutical drug discovery, biomedical research, genetics and proteomics, research, and food safety. We like to provide reliable answers while simplifying complexity and delivering certainty with a seamless experience. To learn more about Luminex please visit us at luminexcorp.com.

Roche is a global pioneer in pharma and diagnostics focused on advancing science to improve people’s lives. The combined strengths of pharmaceuticals and diagnostics under one roof have made Roche the leader in personalized healthcare – a strategy that aims to fit the right treatment to each patient in the best way possible. Roche is the world’s largest biotech company, with truly differentiated medicines in oncology, immunology, infectious diseases, ophthalmology, and diseases of the central nervous system. Roche is also the world leader in vitro diagnostics and tissue-based cancer diagnostics, and a frontrunner in diabetes management. Roche is the world leader in personalized surgery to deliver better ways to prevent, diagnose and treat diseases.

Stilla Technologies is a Paris-based European biotechnology company that focuses on accelerating the development of next-generation genetic tests by providing biologists with tools for high-resolution genetic analysis. Using breakthrough microfluidic technology, Stilla has developed the Naica system, an innovative digital PCR system equipped with 2 color multiplexing capabilities. By encapsulating all steps for digital PCR in a single chip, Naica offers a fast and user-friendly solution, rendering digital PCR accessible to all.

VyCAP is a provider of technology for the isolation, identification and analysis of cells and single cells from biological fluid samples. The company designs, and manufactures innovative practical solutions for both Life Science and Clinical applications. We combine MEMS micromachining with standard methods for cell identification and DNA, RNA and single cell protein secretion analysis. An excellent example is our Puncher system for Single Cell Isolation. The simplicity of the system combined with a Single Cell Isolation yield of over 95%, makes the Puncher system a perfect tool for everyone who is working on single cells and rare cells at the single cell level. Please visit our booth for more information about our products.
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Speaker: Darryl Irwin, Ph.D.
Sr. Director, Applications Development
Agena Bioscience

Please join us: Thursday, October 5th, 2017
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