13th International Conference on

Laboratory Medicine & Pathology

June 25-26, 2018 | Berlin, Germany

Keynote Forum

Day 1

Petr Starostik, Diagn Pathol Open 2018, Volume 3
DOI: 10.4172/2476-2024-C1-001

Petr Starostik

University of Florida, USA

Personalized pharmacogenomics

GatorSeq Pharm is a pharmacogenomic gene assay we developed that predicts how patients will respond to a specific drug. The test determines the genotype/allelotype of each patient and correlates the results with the expected drug response based on published data and Clinical Pharmacogenetics Implementation Consortium recommendations. Personalized drug therapy can then be based on the individual's genetic makeup which accounts for differences in drug absorption, metabolism, and efficiency. Such genetic differences may explain why one drug works well for one person, but the same drug causes severe adverse effects in other individuals. The test was validated in a clinical CLIA-approved laboratory to genotype 11 most significant pharmacogenomic genes. The test results provides the ordering physician with actionable relevant data and recommendations to individualize patient care allowing them to make insightful treatment decisions.

Biography

Dr. Petr Starostik is Associate Professor of Pathology and serves as Director of Molecular Pathology in the Department of Pathology, Immunology, and Laboratory Medicine of the College of Medicine at the University of Florida in Gainesville, FL. Over the years, he directed several molecular diagnostics laboratories, both in the U.S. and abroad. Development of molecular diagnostic tests is his specialty as evidenced by his publications and the multitude of laboratory-developed tests performed in laboratories he directed. Besides clinical work, he also pursues basic research focusing on the role of FLT3 ITD in acute leukemia.

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Claudio Sorio, Diagn Pathol Open 2018, Volume 3
DOI: 10.4172/2476-2024-C1-001

Claudio Sorio

University of Verona, Italy

Role of of protein tyrosine phosphatase receptor type γ in chronic myeloid leukemia

Protein tyrosine phosphatase receptor gamma (PTPRG) is a ubiquitously expressed member of the protein tyrosine phosphatase family known to act as a tumor suppressor gene in many different neoplasms with mechanisms of inactivation including mutations and methylation of CpG islands in the promoter region. We identified a critical role in human hematopoiesis and describe a role as oncosuppressor in chronic myeloid leukemia (CML). We have described PTPRG expression in various tissues and recently developed a monoclonal antibody capable of recognizing the native antigen of this phosphatase by flow cytometry: we confirmed PTPRG protein downregulation in CML patients at diagnosis in the Philadelphia-positive myeloid lineage (including CD34+/CD38bright/dim cells). After effective tyrosine kinase inhibitor (TKI) treatment, its expression recovered in tandem with the return of Philadelphia-negative hematopoiesis. Of note, PTPRG mRNA levels remain unchanged in tyrosine kinase inhibitors (TKI) non-responder patients, confirming that downregulation selectively occurs in primary CML cells. We have also identified a novel regulative loop involving CTNNB1 gene. The availability of this unique antibody permits its evaluation for clinical application including the support for diagnosis and follow-up of these disorders. Evaluation of the role of PTPRG in health and disease is facilitated by the availability of a specific reagent capable to specifically detect its target in various experimental conditions.

Biography

Claudio Sorio has completed his MD from University of Verona, Italy and his PhD and Postdoctoral studies from Thomas Jefferson University, Philadelphia, USA. He specilized in Surgical Pathology at the same university. He is the Director of Cystic Fibrosis Traslational Research Laboratory "D Lissandrini" at the University of Verona and Head of the Biomarker Laboratory at the same institution. He has published more than 74 original papers and several reviews and book chapters in reputed journals and has been serving as an Editorial Board Member of reputed journals.

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Day 2

Ian James Martins, Diagn Pathol Open 2018, Volume 3
DOI: 10.4172/2476-2024-C1-001

Ian James Martins

Edith Cowan University, Australia

The Limitations Of Laboratory Medicine With Relevance To Biomarker Tests And Global Organ Disease

Various diagnostic technologies have been used with relevance to genomics, lipidomics and proteomics to allow more sensitive interpretations with relevance to early cell dysfunction. The diagnostic technologies encompass the genome, transcriptome, proteome and metabolome (central dogma of biology) and determine the cell genome (nuclear receptors) and transcription factor alterations with relevance to concentrations of plasma lipids and proteins. The projected cost of plasma and cell biomarker analysis is expected to be approximately 52 billion dollars by the year 2020. Major efforts with biomarkers have been identified with plasma protein panels to assess progression and severity of diseases. In spite of laboratory medicine and various analyte measurements for chronic diseases early abnormal nuclear-mitochondria interactions have not been identified with toxic immune reactions involved in mitochondrial apoptosis and the induction of programmed cell death.

Biography

Dr. Ian Martins is a Reveiwer for international journals. Chief Editor for International Journal of Diabetes Research (2014-2017), Research and Reviews: Neuroscience (2016-2017), Journal of Diabetes and Clinical Studies. BIT Member (BIT Congress. Inc) with *H-index* of 43, (ResearchGate STATs (23), Mendeley STATS (20). Scientist for Science Advisory Board (USA)/Academic with Academia.edu. Citations > 3000. ResearchGate's analysis available on google, Tweet, Facebook, Lindekin under Ian James Martins' name > 96% of the international SCIENTISTS. Lifetime Membership by International Agency for Standards and Ratings as Fellow for Diabetes, Medical Science (Nutrition). Conferred with the RICHARD KUHN RESEARCH AWARD-2015 ENDOCRINOLOGY AND METABOLISM.

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Naglaa Kholoussi, Diagn Pathol Open 2018, Volume 3
DOI: 10.4172/2476-2024-C1-001

Naglaa Kholoussi
National Research Centre, Egypt

Expression Of CD23 And CD154 By Neonatal Lymphocytes In Cord Blood During Fetal Development

Neonates produce lower levels of IgE compared with adults. Isotype switching to IgE production by human B cells requires a well-coordinated series of events. Thus IL-4 (and to a lesser extent IL-13) and the cognate interaction of B cell (CD40) with T cell (CD40L, CD154) have now been identified as the minimal requirements for the transcription of germline epsilon message and secretion of IgE. This study aimed at the exploration of the relation between CD4, CD19, CD23, and CD154 in fetal cord blood. EDTA blood samples were collected from the umbilical cord of premature and full term births. Adults EDTA (Ethylenediaminetetraacetic acid) blood was used as control samples. Samples were processed for flowcytometry by a stain-lyse method using (BD kits). The following antibodies were used for this study: anti-CD19 conjugated to APC, anti-CD23 conjugated to PE, anti-CD154 conjugated to FITC, and anti-CD4 conjugated to FITC (Fluorescein isothiocyanate). Isotype-matched controls were performed for every analysis. The percentages of CD23+ B cells in cord blood were significantly decreased in comparison to the adult blood. CD4+ T cells were significantly decreased in preterm birth while no significant difference was found in full term birth cord blood and adult blood. Regarding CD 154+ cells were significantly lower in cord blood than adult peripheral blood. Thus, it is unlikely that altered expression of CD23 on B cells contributes to the low level of IgE in the neonatal circulation unless functional differences occur or a lack of processing to the soluble form is important in regulating IgE production. However the abundance of T cells could alter the T- and B-cell interaction necessary for IgE switching by B cells and, thereby, especially with impaired IL-4 production, limit IgE production.

Biography

Naglaa Kholoussi has completed her MD from National Cancer Institute of Cairo University, Egypt. She was the Founder- Department of Immunogenetics in 2002-2009. She was the Head of the Human Genetics at National Research Centre, Egypt for the period 2010-2015. She has participated and chaired several research projects, conferences and workshops. She is the Supervisor of the Flow Cytometry Unit. She has published more than 58 papers. She is an Editorial Board Member of *Middle East Journal of Medical Genetics*. She was awarded the prize from the ASRT, 2004. She is the co-author of few books including: *"Atlas of the Ultra-Structure of the Hematopoietic Cells"*. Cairo University, 2004;*"Advances in Medical Diagnostic Techniques and Procedures"*..

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