

**qPCR-NGS-2013.net**

**18<sup>th</sup> – 22<sup>nd</sup> March 2013**

***Symposium & Exhibition & Workshops***

**Next Generation Thinking in Molecular Diagnostics**

TUM, Freising-Weihenstephan, Germany

## **qPCR & NGS 2013 Poster Presentations**

**6th international qPCR & NGS Symposium  
Industrial Exhibition & Application Workshops**

**Next Generation Thinking in Molecular Diagnostics**

Editor: Michael W. Pfaffl  
Physiology, Freising – Weihenstephan  
Weihenstephaner Berg 3  
Technical University Munich (TUM)  
85354 Freising  
Germany

[www.qPCR-NGS-2013.net](http://www.qPCR-NGS-2013.net)

## **Poster Presentations**

All posters will be displayed at all three poster sessions, starting on Monday evening 6 p.m. until Wednesday early afternoon 2 p.m.

### **Poster Session 1: Monday Evening**

*Time:* Monday, 18/Mar/2013: 6:00pm - 10:00pm  
*Location:* Foyer - lower level

### **Poster Session 2: Tuesday Lunch Time**

*Time:* Tuesday, 19/Mar/2013: 12:30pm - 2:00pm  
*Location:* Foyer - lower level

### **Poster Session 3: Wednesday Lunch Time**

*Time:* Wednesday, 20/Mar/2013: 12:30pm - 2:00pm  
*Location:* Foyer - lower level

## **Best Academic Poster Award**

We are glad to announce that the best academic poster at the qPCR & NGS Poster Session will receive the **Best Academic Poster Award**: PlatR - Smart Pipetting Assistant!

PlatR Supports 96-well and 384-well microtiter plates, is suitable for PCR, qPCR and ELISA and operates on a Samsung Galaxy Tab 2 which is included in the award!

The owner of the best academic poster will receive a free PlatR. More info at [www.platr-pipetting.com](http://www.platr-pipetting.com)

The second place award is the free participation at the [qPCR Experience workshop: Real-time PCR in Gene Expression Studies](#)

23rd - 25th October 2013, Munich, Germany

3-day hands-on workshop with extensive data analysis and troubleshooting sessions will be held from 23rd to 25th October 2013 in Munich, Germany

Workshop is organised by BioSistemika Ltd. in collaboration with Technical University of Munich and BioM Biotech Cluster Development GmbH

We are looking forward to seeing your posters and participating in the interesting debates about your work and research.

Fingers crossed for the future winner!

## **Poster Sessions and Poster Numbers:**

<b>Next Generation Sequencing P001 – P016 .....</b>	<b>3</b>
<b>Molecular Diagnostics P017 – P035 .....</b>	<b>4</b>
<b>Molecular Diagnostics in Agriculture, Veterinary Medicine, and Environmental Science P036 – P053 .....</b>	<b>6</b>
<b>New Application in qPCR P054 – P071 .....</b>	<b>8</b>
<b>Digital PCR P072 – P075 .....</b>	<b>10</b>
<b>Non-coding RNAs P076 – P081 .....</b>	<b>10</b>
<b>qPCR Data Analysis P082 – P090 .....</b>	<b>11</b>
<b>Assay Optimisation, MIQE and Quality Control P091 – P105 .....</b>	<b>12</b>

## Next Generation Sequencing P001 – P016

### P001

#### Exome Sequencing To Detect Novel Mutations Causing Malignant Hyperthermia

Anja H. Schiemann, Kathryn M. Stowell  
Massey University, New Zealand

### P002

#### Exploring the Complex Transcriptome of Pigmented and Non-pigmented Bovine Skin Using RNAseq

Rosemarie Weikard, Frieder Hadlich, Ronald Brunner, Christa Kühn  
Leibniz Institute for Farm Animal Biology (FBN), Germany

### P003

#### A Broad Re-sequencing Study Of 409 Genes In NCI-60 Cell Lines Using The Ion AmpliSeq™ Comprehensive Cancer Panel And Ion PGM™ Semiconductor Sequencing Reveals Previously Unreported Cell Line-specific Mutations

David Ruff, Benjamin Kong, Shiaw-Min Chen, Iris Casuga, David Joun, Chieh-Yuan Li, Rob Bennett, Mark Shannon  
Life Technologies, United States of America

### P004

#### Ready to Go for Next-Generation Sequencing: Extraction of Circulating microRNAs from Bovine Plasma

Melanie Spornraft<sup>1</sup>, Bettina Haase<sup>2</sup>, Vladimir Benes<sup>2</sup>, Michael W. Pfaffl<sup>1</sup>, Irmgard Riedmaier-Sprenzel<sup>1</sup>  
<sup>1</sup>Physiology Weihenstephan, ZIEL Research Center for Nutrition and Food Sciences, Technische Universität München, Freising, Germany; <sup>2</sup>EMBL European Molecular Biology Laboratory, Genomics Core Facility, Heidelberg, Germany

### P005

#### The predicted secretome in the transcriptome of cereal cyst nematode, *Heterodera avenae*

Uma Rao, Prasoon Kumar Thakur, Mukesh Kumar, NagaVara Prasad G.  
Indian Agricultural Research Institute (IARI), India

### P006

#### Differences in microRNA composition over the course of lactation – Next-Generation-Sequencing of bovine milk and blood

Benedikt Kirchner<sup>1</sup>, Alexander Hahn<sup>2</sup>, Vladimir Benes<sup>3</sup>, Michael W Pfaffl<sup>1</sup>  
<sup>1</sup>Physiology Weihenstephan, ZIEL Research Center for Nutrition and Food Sciences Technische Universität München, Freising, German; <sup>2</sup>Genomatix Software GmbH, Munich, Germany; <sup>3</sup>EMBL Genomics Core Facility (GeneCore), Heidelberg, Germany

### P007

#### Rapid Sequencing Of The Entire Human mtDNA Using Next-Generation Sequencing By Ion Torrent PGM

Simon Koren<sup>1</sup>, Mojca Tajnik<sup>2</sup>, Nataša Toplak<sup>1</sup>, Minka Kovač<sup>1</sup>, Damjan Glavač<sup>2</sup>  
<sup>1</sup>Omega, d.o.o., Dolinškova 8, SI-1000 Ljubljana, Slovenia; <sup>2</sup>University of Ljubljana, Faculty of Medicine, Department of Molecular Genetics, Korytkova 2, SI-1000 Ljubljana, Slovenia

### P008

#### An Automated, High-Throughput Library Construction Protocol with Benefits for Low-Input Applications

Olaf Stelling<sup>1</sup>, Maryke Appel<sup>2</sup>, Eric van der Walt<sup>2</sup>, John Foskett<sup>2</sup>, Olga Aminova<sup>3</sup>, Kety Huberman<sup>3</sup>, Adriana Heguy<sup>3</sup>  
<sup>1</sup>Alpaqua Engineering, LLC, Beverly, MA, USA; <sup>2</sup>Kapa Biosystems Inc., Woburn, MA, USA; <sup>3</sup>Geoffrey Beene Translational Oncology Core Facility, Memorial Sloan Kettering Cancer Center, New York, NY, USA

### P009

#### Transcriptome Analysis on the Ion Proton™ System

Richard Fekete, Kelli Bramlett, Yongming Sun, Jeff Schageman, Luming Qu, Ross Hershorn, Charmaine San Jose Hinahon, Bob Setterquist  
Life Technologies, United States of America

### P010

#### Rapid whole genome sequencing investigation of a familial outbreak of *E. coli* O121:H19 with a sheep farm as the suspected source

Robert Söderlund<sup>1,2</sup>, Cecilia Jernberg<sup>3</sup>, Christine Källman<sup>2</sup>, Ingela Hedenström<sup>3</sup>, Erik Eriksson<sup>2</sup>, Erik Bongcam-Rudloff<sup>1</sup>, Anna Aspán<sup>2</sup>  
<sup>1</sup>SLU Global Bioinformatics Centre, Swedish University of Agricultural Sciences, Uppsala, Sweden; <sup>2</sup>National Veterinary Institute (SVA), Uppsala, Sweden; <sup>3</sup>Swedish Institute for Communicable Disease Control (SMI), Solna, Sweden

**P011****AmpliSeq™ RNA: Targeted sequencing of genes on the PGM™****Richard Fekete**, Brian Sanderson, Jeff Schageman, Angie Cheng, Kelli Bramlett

Life Technologies, United States of America

**P012****High Resolution HLA Typing of Blood Stem Cell Donors by Next Generation Sequencing****Kaimo Hirv**<sup>1</sup>, **Thomas Zacher**<sup>2</sup>, **Oliver Flieger**<sup>3</sup><sup>1</sup>Center for Human Genetics and Laboratory Medicine, Dr. Klein & Dr. Rost, Martinsried, Germany; <sup>2</sup>Hamilton Robotics GmbH, Martinsried, Germany; <sup>3</sup>Hamilton Bonaduz AG, Bonaduz, Switzerland**P013****MuA Transposase Enzyme Enables Fast And Easy DNA Library Preparation For NGS****Laura-Leena Kiiskinen**, Sanna Askolin, Julius Gagilas, Simona Gliebutė, Heli Haakana, Juuso Juhila, Ian Kavanagh, Arvydas Lubys, Justas Morkūnas, Minna Päiväsaari, Edita Povilaitienė, Jurgita Rubekina, **Ossian Saris**, Remigijus Skirgaila, Romas Tamoševičius, Gediminas Alzbutas, Mindaugas Ukanis

Thermo Fisher Scientific, Vantaa, Finland &amp; Vilnius, Lithuania

**P014****Next Generation Sequencing Sample Preparation Utilizing the Echo® Liquid Handler****Celeste Glazer**, **Jovica Pavlovic**, Howard Lee, Danny Lee

Labcyte, United States of America

**P015****Targeted Re-Sequencing Of 325 Inherited Disease- Associated Genes In A Family Trio And HapMap Populations Using The Ion Ampliseq™ Inherited Disease Panel And Ion PGM™ Semiconductor Sequencing****David Ruff**, Iris Casuga, Benjamin Kong, David Joun, Shiaw-Min Chen, Chieh-Yuan Li, Alexander Joyner, Fiona Hyland, Rob Bennett, Mark Shannon

Life Technologies, United States of America

**P016****Use of internal standard mixtures enables reliable NGS gene expression quantification at lower cost following multiple-round PCR and inter-gene convergence of transcript abundance****Thomas Blomquist**, Erin L. Crawford, James C. Willey

University of Toledo, United States of America

**Molecular Diagnostics****P017 – P035****P017****Identification Of Distinct Subpopulations With Stem Cell Characteristics In Breast Cancer Types At Single Cell Level****Nina Akrap**<sup>1</sup>, Eva Diffner<sup>1</sup>, Pernilla Gregersson<sup>1</sup>, Hannah Harrison<sup>2</sup>, Anders Ståhlberg<sup>1</sup>, Göran Landberg<sup>1,2</sup><sup>1</sup>Sahlgrenska Cancer Center, Gothenburg University, Sweden; <sup>2</sup>Paterson Institute for Cancer Research, Manchester University, UK**P018****A multimarker qPCR platform for endometrial cancer biology characterisation****Anna Maria Supernat**<sup>1,2</sup>, Zuzanna Urban<sup>1</sup>, Sylwia Łapińska-Szumczyk<sup>3</sup>, Sambor Sawicki<sup>3</sup>, Dariusz Wydra<sup>3</sup>, Anna Żaczek<sup>1</sup><sup>1</sup>Department of Medical Biotechnology, Intercollegiate Faculty of Biotechnology, University of Gdańsk and Medical University of Gdańsk; <sup>2</sup>Gdańsk Science and Technology Park, Pomeranian Special Economic Zone Ltd.; <sup>3</sup>Department of Gynaecology, Gynaecological Oncology and Gynaecological Endocrinology, Medical University of Gdańsk**P019****Frequencies of CES1 Gene Polymorphisms In Patients With Metastatic Breast Cancer and Evaluation of Drug Response Effects in Capecitabine Users as Retrospectively****Duygu Aygunes**, Buket Kosova, Canfeza Sezgin

Ege University, Turkey

**P020****Evaluation of a Microcapillary Electrophoresis (MCE)-Based Surveyor Scan KRAS Mutation Assay for the Pathology Routine****Rebekka Prokschi<sup>1</sup>, Gertrude Weberhofer<sup>2</sup>, Christa Freibauer<sup>3</sup>, Alfred Schöller<sup>3</sup>**<sup>1</sup>University of Applied Sciences, Biomedical Science, Vienna, Austria; <sup>2</sup>A. Menarini Diagnostics, Vienna, Austria; <sup>3</sup>Institute of Clinical Pathology, LK Weinviertel Mistelbach-Gänserndorf, Mistelbach, Austria**P021****Development of a HRM-based detection method for DNA biomarkers in support of public health****Sigrid C. J. De Keersmaecker, Maud Delvoye, Omar Ahdach, Latifa El Bali, Nancy Roosens**

Scientific Institute of Public Health (WIV-ISP), Belgium

**P022****Fast And Cheap Screening Method Of A Novel Mutation In GJB6 Protein, Associated With Non-Syndromic Hearing Loss****Nataša Toplak, Simon Koren, Minka Kovač**

Omega d.o.o., Dolinškova 8, SI-1000 Ljubljana, Slovenia

**P023****Effect of HPV-vaccination on HPV-prevalence in Belgium****Marusya Lieveid, Liesbeth Ceelen, Ramses Forsyth**

Pathlicon, Belgium

**P024****Upstream Open Reading Frames Are Regulated By Nicotinic Acetylcholine Receptor Subunits Associated With Smoking And Smoking-Related Disorders****Marlene Eggert<sup>1</sup>, Eric Aichinger<sup>1</sup>, Michael W Pfaffl<sup>2</sup>, Ortrud K Steinlein<sup>1</sup>, Martina Pfob<sup>1</sup>**<sup>1</sup>Institute of Human Genetics, University Hospital, Ludwig-Maximilians-University, Munich, Germany; <sup>2</sup>Physiology Weihenstephan, Center of Life and Food Sciences Weihenstephan, Technical University of Munich, Germany**P025****Quantitative Allele Specific Amplification (quasa) In Residual Disease Monitoring Of Hairy Cell Leukaemia****Robert Powell<sup>1</sup>, Rebecca Gover<sup>1</sup>, Richard Ansell<sup>2</sup>, Sarah Bastow<sup>2</sup>, Tom Rider<sup>2</sup>, Helen Stewart<sup>2</sup>, Tim Chevassut<sup>2</sup>**<sup>1</sup>PrimerDesign Ltd, United Kingdom; <sup>2</sup>Brighton & Sussex Medical School**P026****LoopTag Real-Time PCR Probe System for Sensitive Pathogen Detection****Henning Hanschmann<sup>2</sup>, Toni Kramer<sup>1,2</sup>, Thomas Juretzek<sup>4</sup>, Michael Steidle<sup>5</sup>, Christian Schröder<sup>1</sup>, Stefan Rödiger<sup>1,2,3</sup>, Peter Schierack<sup>1</sup>, Werner Lehmann<sup>2</sup>**<sup>1</sup>Lausitz University of Applied Sciences, Germany; <sup>2</sup>Attomol GmbH, Germany; <sup>3</sup>Charité, Germany; <sup>4</sup>Carl-Thiem-Klinikum Cottbus gGmbH, Germany; <sup>5</sup>Laborärzte Sindelfingen, Germany**P027****Sensitive Methods for Detection of Secondary KIT Mutations in Gastrointestinal Stromal Tumours****Carina Heydt, Ulrike Koitzsch, Michaela Angelika Kleine, Helen Künstlinger, Eva Wardelmann, Margarete Odenthal, Sabine Merkelbach-Bruse**

Institute of Pathology, University Hospital Cologne, Germany

**P028****Cancer Biomarker Research Using castPCR™ Technology****David N. Keys, Yun Bao, Bonnie Ching, Mokang Mouanoutoua Mokang Mouanoutoua, Toinette Hartshorne, Sejal Desai, Junko Stevens, Caifu Chen**

Life Technologies Genetic Analysis R&amp;D. Foster City, CA. USA

**P029****Validation of a real-time PCR method for SNPs analysis of known genes of lifestyle-related diseases among filipino adults****Mark Pretzel Zumaraga**

Food and Nutrition Research Institute, Department of Science and Technology

**P030****Cloning and Expression of Pakistani HCV NS3–4A Pprotease and Development of Robust in vitro Serine Protease Assay by FRET****Kaneez Fatima<sup>1</sup>, Steve Harakeh<sup>2</sup>, Afif Abdel Nour<sup>3</sup>, Ishtiaq Qadri<sup>4</sup>**<sup>1</sup>National University of Sciences & Technology, Islamabad, Pakistan.; <sup>2</sup>Professor King Fahd Medical Research Center, King Abdul Aziz University, PO Box 80216 Jeddah 21589, Saudi Arabia.; <sup>3</sup>Professor King Fahd Medical Research Center, King Abdul Aziz University, PO Box 80216 Jeddah 21589, Saudi Arabia.; <sup>4</sup>Professor King Fahd Medical Research Center, King Abdul Aziz University, PO Box 80216 Jeddah 21589, Saudi Arabia,**P031****The Regulatory Effect of 1,  $\alpha$ , 25-dihydroxyvitamin D<sub>3</sub> on the Expression of Inflammatory Cytokines in Diabetic Retinopathy****Ali M Tohari, John A Craft, Xinhua Shu**

Glasgow Caledonian University, United Kingdom

**P032****Tumour Targeting of Gene Expression Using Hyaluronic Acid-Polypropylenimine Dendrimer Conjugates****Abdurrahim Elouzi<sup>1</sup>, Sandy A. Gray<sup>2</sup>, Andraese G. Schatzlein<sup>3</sup>, Ijeoma F. Uchebu<sup>3</sup>**<sup>1</sup>Department of Pharmaceutics, Tripoli University, Tripoli, Libya; <sup>2</sup>Department of Pharmaceutical Science, University of Strathclyde, Glasgow, UK; <sup>3</sup>UCL School of Pharmacy, University College London, London, UK**P033****Using a qPCR based method for screening several polymorphisms in COXI gene****Farid Ebnerasuly, Mohammad Said Hakhamaneshi, Naseh Sigari**

Islamic Azad University Science and Research Branch, Iran, Islamic Republic of

**P034****qPCR Gene Expression Profiles in Peripheral Blood Mononuclear Cells of Breast Cancer Patients****Ludek Sojka<sup>1,2</sup>, Irena Vancurova<sup>1,2</sup>, Pavel Strnad<sup>3</sup>, David Svec<sup>4</sup>, Mikael Kubista<sup>4</sup>, Radek Spisek<sup>1,2</sup>**<sup>1</sup>Sotio, a.s., Czech Republic; <sup>2</sup>Department of Immunology, 2nd Faculty of Medicine, Charles University and University Hospital Motol, Prague, Czech Republic; <sup>3</sup>Department of Gynecology and Obstetrics, 2nd Faculty of Medicine, Charles University and University Hospital Motol, Prague, Czech Republic; <sup>4</sup>TATAA Biocenter, Gothenburg, Sweden**P035****New Composites Biomarkers for Colorectal Cancer Diagnosis****Hicham Mansour<sup>1</sup>, Roberto Incitti<sup>1</sup>, Vladimir Bajic<sup>2</sup>**<sup>1</sup>Bioscience Laboratory, KAUST, Saudi Arabia; <sup>2</sup>Computational Bioscience Center, KAUST, Saudi Arabia**Molecular Diagnostics in Agriculture, Veterinary Medicine, and Environmental Science****P036 – P053****P036****MALDI-TOF MS as confirmation tool for pathogens in drinking water.****Marsha van der Wiel, P. Willemsse, G. Wubbels**

WLN, Netherlands, The

**P037****Quantification of Nitrifying and Manganese oxidizing bacteria with real-time QPCR to evaluate purification efficiency of sand filters in drinking water production****Marsha van der Wiel, Gerhard Wubbels**

WLN, Netherlands, The

**P038****Application of a Multiplex Real-time PCR Approach for the Quantification of Beef and Pork in Minced Meat and other Meat Products****Azuka Nkem Iwobi, Daniela Sebah, Gesche Fischer, Christoph Losher, Iris Kraemer, Georg Hauner, Ulrich Busch, Ingrid Huber**

Bavarian Health and Food Safety Authority, Germany

**P039****Study of Bacterial Diversity in the Topsoil and in the Hardpan in an Agricultural Soil by Metagenomics Following by Two Analysis Pipelines****Aurore Stroobants<sup>1</sup>, Christophe Lambert<sup>2</sup>, Florine Degruene<sup>1</sup>, Daniel Portetelle<sup>1</sup>, Micheline Vandenberg<sup>1</sup>**<sup>1</sup>Unité de Microbiologie et Génomique, Université de Liège, Gembloux Agro-Bio Tech, Avenue Maréchal Juin 6, 5030 Gembloux, Belgium; <sup>2</sup>Progenus SA, Rue des Praules 2, 5030 Gembloux, Belgium**P040****Development of HRM assay for differentiation of Raspberry bushy dwarf virus (RBDV) coat protein sequence variants****Irena Mavrič Pleško<sup>1</sup>, Mojca Viršček Marn<sup>1</sup>, Minka Kovač<sup>2</sup>, Nataša Toplak<sup>2</sup>**<sup>1</sup>Kmetijski institut Slovenije, Slovenia; <sup>2</sup>Omega d.o.o., Slovenia**P041****Development of a multiplex qPCR assay with propidium monoazide for quantifying viable *Bifidobacterium animalis* and *Lactococcus lactis* in faeces.****Mickaël Boyer, Guillaume Gobert, Mélanie Laporte, Elodie Sadowski, Jérôme Combrisson**

Danone Research, France

**P042****Influence of sample particle size on subsequent steps in Real Time PCR GMO analysis****Monika Marković Bordoški, Gordana Nović, Danica Milinkov Guljaš**

SP Laboratory, Serbia

**P043****Detection and Quantification of Sulfate Reducing and Sulfur Oxidizing Bacteria in Corroded Wastewater Systems using Quantitative Real-Time PCR Technique****Bettina Huber<sup>1</sup>, Brigitte Helmreich<sup>1</sup>, Rolf König<sup>2</sup>, Elisabeth Müller<sup>1</sup>**<sup>1</sup>Institute of Water Quality Control, Am Coulombwall, 85748 Garching, TU München, Germany; <sup>2</sup>Weber-Ingenieure GmbH, Stuttgarter Straße 115, 70469 Stuttgart, Germany**P044****Insights into the Microbiota of the Bovine Uterus****Lif Rødtness Vesterby Knudsen<sup>1</sup>, Cecilia Christensen Karstrup<sup>2</sup>, Kirstine Klitgaard Schou<sup>1</sup>, Hanne Gervi Pedersen<sup>2</sup>, Øystein Angen<sup>1</sup>, Jørgen Steen Agerholm<sup>2</sup>, Tim Kåre Jensen<sup>1</sup>**<sup>1</sup>Technical University of Denmark, Denmark; <sup>2</sup>University of Copenhagen**P045****Quantification of infectious pathogenic *Campylobacter* species in water using QPCR and PMA.****Gerhard Herman Wubbels, Marsha v.d. Wiel, Auke Douma**

Waterlaboratorium Noord, Netherlands, The

**P046****Selection and validation of reference genes for quantitative gene expression studies by real-time PCR in brinjal (*Solanum melongena* L)****Uma Rao, NagaVara Prasad G., Pradeep Papolu, Prasoon Kumar Thakur, Divya Kamaraju, Rohini Srivathsa**

Indian Agricultural Research Institute (IARI), India

**P047****Preliminary Study For Screening Of Potentially Pathogenic Bacteria In Poultry Meat****Miha Kovac<sup>1,2</sup>, Nataša Toplak<sup>1</sup>, Simon Koren<sup>1</sup>, Minka Kovac<sup>1</sup>**<sup>1</sup>Omega d.o.o., Dolinškova 8, SI-1000 Ljubljana, Slovenia; <sup>2</sup>University of Ljubljana, Veterinary Faculty, Gerbičeva 60, SI-Ljubljana, Slovenia**P048****Regulation of HIF-1alpha and vasohibins during follicle maturation and corpus luteum formation and function in bovine ovary****Bajram Berisha<sup>1,2</sup>, Stefanie Schilffarth<sup>2</sup>, Heike Kliem<sup>2</sup>, Michael W Pfaffl<sup>2</sup>, Dieter Schams<sup>2</sup>**<sup>1</sup>Faculty of Agriculture and Veterinary, University of Prishtina, Prishtinë, Kosovo; <sup>2</sup>Physiology Weihenstephan, Technische Universität München, Freising, Germany



**P049****Quantitative Analysis of Transcripts of the Open Reading Frames of *Sugarcane Yellow Leaf Virus* Genome by One-multiplex RT-PCR****Abdelaleim Ismail ElSayed**

Biochemistry Department, Faculty of Agriculture, Zagazig University, Egypt

**P050****Molecular characterization and phylogenetic relationships of newly discovered Potato virus X (PVX) strain from Peru****Denis Kutnjak<sup>1</sup>, Rocio Silvestre<sup>2</sup>, Wilmer J. Cuellar<sup>2,3</sup>, Giovanna Müller<sup>2</sup>, Jan F. Kreuze<sup>2</sup>**<sup>1</sup>National Institute of Biology (NIB), Ljubljana, Slovenia; <sup>2</sup>International Potato Center, Lima (CIP), Peru; <sup>3</sup>International Center for Tropical Agriculture (CIAT), Cali, Colombia**P051****Mammary immunity of different cattle breeds measured with microfluidic high-throughput RT-qPCR****Diana Sorg<sup>1,2</sup>, Eike Fandrey<sup>3</sup>, Kai Frölich<sup>3</sup>, Heinrich H.D. Meyer<sup>1,2</sup>, Heike Kliem<sup>1,2</sup>**<sup>1</sup>Physiology Weihenstephan, Technische Universität München, Freising, Germany; <sup>2</sup>ZIEL - Research Center for Nutrition and Food Sciences, Technische Universität München, Freising, Germany; <sup>3</sup>Arche Warder, Zentrum für alte Haus- und Nutztierassen e. V., Warder, Germany**P052****Influence of Nutrition Manipulation during an Early Growth Stage on Glucose Metabolisms of Longissimus Muscle in Wagyu (Japanese Black)****Ryosuke Fujimura<sup>1</sup>, Kotaro Etoh<sup>1</sup>, Kunihiko Saitoh<sup>2</sup>, Kaori Metoki<sup>2</sup>, Shuichi Kaneda<sup>2</sup>, Takeshi Abe<sup>2</sup>, Tetsuji Etoh<sup>1</sup>, Yuji Shiotsuka<sup>1</sup>, Hidetoshi Suzuki<sup>2</sup>, Hiroyuki Hasebe<sup>2</sup>, Fumio Ebara<sup>1</sup>, Steffen Maak<sup>3</sup>, Elke Albrecht<sup>3</sup>, Akira Saito<sup>4</sup>, Takafumi Gotoh<sup>1</sup>**<sup>1</sup>Kuju Agricultural Research Center, Faculty of Agriculture, Kyushu University, Japan; <sup>2</sup>National Livestock Breeding Center (NLBC), Japan; <sup>3</sup>Leibniz Institute for Farm Animal Biology, Germany; <sup>4</sup>Zenrakuren, Japan**P053****The expression and localization of some lymphangiogenic VEGF family members in bovine corpus luteum****Bairam Berisha<sup>1,2</sup>, Rebecca Kenngott<sup>3</sup>, Stefanie Schilffarth<sup>2</sup>, Fred Sinowatz<sup>3</sup>, Dieter Schams<sup>2</sup>**<sup>1</sup>Faculty of Agriculture and Veterinary, University of Prishtina, Prishtinë, Kosovo; <sup>2</sup>Physiology Weihenstephan, Technische Universität München, Freising, Germany; <sup>3</sup>Institute of Veterinary Anatomy, Histology and Embryology, Ludwig-Maximilians-Universität München, München, Germany**New Application in qPCR****P054 – P071****P054****Novel mismatch suppression strategy enabling allele-specific cDNA synthesis and ultra-sensitive detection of RNA variants****The Huu Ho<sup>1,2</sup>, Lin Feng<sup>1,2</sup>, Sussana Lintula<sup>3</sup>, Arto K. Orpana<sup>4</sup>, Jakob Stenman<sup>1,5,6</sup>**<sup>1</sup>Minerva Foundation Institute for Medical Research, Helsinki, Finland; <sup>2</sup>Faculty of Medicine, Helsinki University, Helsinki, Finland; <sup>3</sup>Department of Clinical Chemistry, University of Helsinki, Helsinki, Finland; <sup>4</sup>HUSLAB, Laboratory of Genetics, Helsinki, Finland; <sup>5</sup>Institute for Molecular Medicine Finland, Helsinki, Finland; <sup>6</sup>Department of Women's and Children's Health, Karolinska Institutet, Stockholm, Sweden**P055****New holistic Approach for easy and cost efficient Genotyping of small numbers of Genes.****Michael M. Larsen<sup>1</sup>, Ulf Bech Christensen<sup>2</sup>**<sup>1</sup>University of Southern Denmark; <sup>2</sup>PentaBase ApS, Lumbyvej 11, building 5V, 5000 Odense C, Denmark**P056****An RT-qPCR Automated Platform: Validation Methods for the Access™ Workstation, the Echo® Liquid Handler, and RealTime Ready™ Reagents****Celeste Glazer, Randy Dyer, Sammy Datwani**

Labcyte, United States of America

**P057****Using TaqMan Assay Followed By Melting Analysis Performed By New-Generation Intercalating Dyes****Karel Bílek, Jiřina Procházková, Oldřich Kubíček**

National Institute for NBC Protection, Czech Republic



**P058****Attachment Of Embryonic Stem Cells-derived Cardiomyocytes In Cultispher-S Microcarriers By Using Spinner Flask****Abdulrhman Akasha**

University of Tripoli, Libya

**P059****High Throughput Profiling Of Antigen Specific T Cells: Repertoires In Vaccine Or Autoimmunity****Anne Eugster, Annett Lindner, Anne-Kristin Heninger, Ezio Bonifacio**

CRTD, TU Dresden, Germany

**P060****Cost-effective real-time analysis by mediator probe (RT)-PCR****Simon Wadle<sup>1</sup>, Stefanie Rubenwolf<sup>1</sup>, Michael Lehnert<sup>1</sup>, Bernd Faltin<sup>2</sup>, Roland Zengerle<sup>1,3,4</sup>, Felix von Stetten<sup>1,3,4</sup>**<sup>1</sup>Laboratory for MEMS Applications, IMTEK - Department of Microsystems Engineering, University of Freiburg, Georges-Koehler-Allee 103, 79110 Freiburg, Germany; <sup>2</sup>Robert Bosch GmbH, Applied Research 1 - Microsystem Technologies - Microstructuring and Assembly, Postfach 10 60 50, 70049 Stuttgart, Germany; <sup>3</sup>HSG-IMIT - Institut für Mikro- und Informationstechnik, Georges-Koehler-Allee 103, 79110 Freiburg, Germany; <sup>4</sup>BIOSS - Centre for Biological Signalling Studies, University of Freiburg, 79110 Freiburg, Germany**P061****Differential expression of heat shock protein genes after temperature treatment in *Drosophila melanogaster* and *Megaselia scalaris* at different stages of development****Tadeusz Malewski, Wiesław Bogdanowicz, Ewa Durska**

Museum &amp; Institute of Zoology, Poland

**P062****Evaluation of the Effect of Magnetic Nanoparticles as Additives on qPCR****Marta Prado, Yury V. Kolen'ko, José Rivas**

International Iberian Nanotechnology Laboratory, Portugal

**P063****PCR never got so Cyxi - Lyophilised Mol Biol Reagents****Martin Alan Lee, Mark Laverick, Diane Rachel Lee**

Fluorogenics LIMITED, United Kingdom

**P064****Evaluation of a new plasma stabilisation technology for circulating cell-free DNA****Vlasta Korenková<sup>1</sup>, Lucie Langerová<sup>1</sup>, Mikael Kubista<sup>1,3</sup>, Francesca Salvianti<sup>2</sup>, Pamela Pinzani<sup>2</sup>**<sup>1</sup>Institute of Biotechnology, Academy of Sciences in Prague, v.v.i., Czech Republic (www.genex.ibt.cas.cz); <sup>2</sup>University of Florence, Italy; <sup>3</sup>TATAA Biocenter, Sweden (www.tataa.com)**P065****Single blastomere expression profiling revealed distribution of maternal transcripts in oocyte and daughter cells during early embryogenesis of *Xenopus laevis*.****Monika Flachsova<sup>1,3</sup>, Radek Sindelka<sup>1,2</sup>, Mikael Kubista<sup>1,4</sup>**<sup>1</sup>Institute of Biotechnology AS CR, v.v.i., Czech Republic; <sup>2</sup>Whitehead Institute, Cambridge, USA; <sup>3</sup>Charles University in Prague, Faculty of Science, Czech Republic; <sup>4</sup>TATAA Biocenter AB, Goteborg, Sweden**P066****VideoScan - A Microscope Imaging Technology Platform for the Multiplex Real-Time PCR****Stefan Rödigier<sup>1,2,3</sup>, Peter Schierack<sup>1</sup>, Alexander Böhm<sup>1</sup>, Jörg Nitschke<sup>1</sup>, Werner Lehmann<sup>2</sup>, Christian Schröder<sup>1</sup>**<sup>1</sup>Lausitz University of Applied Sciences, Germany; <sup>2</sup>Attomol GmbH, Germany; <sup>3</sup>Charité, Germany**P067****Engineered DNA Polymerases for Future Applications****Ramon Kranaster, Andreas Marx**

University of Konstanz, Germany

**P068****Optimization of experiments using bisulfite pyrosequencing for gene-specific DNA methylation analyses****Veronika Leopoldine Pistek<sup>1,2</sup>, Jana Zecha<sup>1</sup>, Rainer Werner Fürst<sup>1</sup>, Susanne Ernestine Ulbrich<sup>1</sup>**<sup>1</sup>Physiology Weihenstephan, TUM, Germany; <sup>2</sup>ZIEL PhD Graduate School `Nutritional Adaptation & Epigenetic Mechanisms`

**P069*****In Silico Design And In Vitro Validation Of 6-Plex RT-qPCR Assays*****François Paillier<sup>1</sup>, Sylwia Kabacik<sup>2</sup>, Christophe Badie<sup>2</sup>**<sup>1</sup>bioMérieux, 5 rue des Berges, 38000, Grenoble, France; <sup>2</sup>HPA Cancer Genetics and Cytogenetics group, Biological Effects department, Centre for Radiation, Chemical and Environmental Hazards, Chilton Didcot Oxon OX11 0RQ UK**P070****Next Generation Enzyme: A Multifunctional DNA Polymerase for Ultrafast Reverse Transcription****Nina Blatter, Jutta Mayer, Markus Wieland, Ramon Kranaster, Andreas Marx**

Gründungsinitiative Prolago Biotec, Universität Konstanz

**P071****Next Generation Enzymes for qPCR Applications****Gavin Rush, Eric van der Walt, John Foskett, Paul McEwan**

Kapa Biosystems, Woburn, MA, USA

**Digital PCR****P072 – P075****P072****Detection of Rare Somatic Mutations Using a Simplified, Specific Digital PCR Workflow with Zero Dead Volume.****David N. Keys, Anna Lam, Michael C. Pallas, Joyce Wilde, Jim C. Nurse, Iain Russell**

Life Technologies, Foster City, CA, USA

**P073****A Simulation Study To Assess The Variance Components In Absolute Quantification Using Digital Droplet PCR****Bart KM Jacobs, Els Goetghebeur, Lieven Clement**

UGent, Belgium

**P074****Digital PCR Modeling for Maximal Sensitivity, Dynamic Range and Measurement Precision****Nivedita Majumdar, Jeff Marks, Thomas Wessel**

Life Technologies, United States of America

**P075****Next Generation Digital PCR Technology: A Simple, Chip-based Nanofluidic system for any benchtop.****Trish Hegerich, Joyce Wilde**

Life Technologies, Foster City, CA, USA

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Physiology Weihenstephan, TU München, Germany

**P078****miRNA High-Throughput Sequencing in Endometriosis**

**Merli Saare**<sup>1,2</sup>, **Kadri Vaidla**<sup>1,2</sup>, **Triin Laisk-Podar**<sup>2</sup>, **Deniss Sõritsa**<sup>4</sup>, **Jaak Simm**<sup>5</sup>, **Agne Velthut-Meikas**<sup>5</sup>, **Helle Karro**<sup>4</sup>, **Madis Metsis**<sup>2</sup>, **Andrei Sõritsa**<sup>6</sup>, **Andres Salumets**<sup>1,2,3</sup>, **Maire Peters**<sup>1,2</sup>

<sup>1</sup>University of Tartu, Department of Obstetrics and Gynecology, Tartu, Estonia; <sup>2</sup>Competence Centre of Reproductive Medicine, Tartu, Estonia; <sup>3</sup>Institute of Biomedicine, University of Tartu, Estonia; <sup>4</sup>Tartu University Hospital's Women's Clinic, Tartu, Estonia; <sup>5</sup>Centre for Biology of Integrated Systems, Tallinn University of Technology, Estonia; <sup>6</sup>Elite Clinic, Tartu, Estonia

**P079****MicroRNA in biofluids – a case study on urine and the impact of optimized protocols.**

**Jörg Krummheuer**, **Thorarinn Blondal**, **Ditte Andreassen**, **Maria Wrang Teilum**, **Niels Tolstrup**, **Nana Jacobsen**, **Peter Mouritzen**  
Exiqon A/S, Skelstedet 16, DK-2950 Vedbaek, Denmark

**P080****Identification of Differentially Expressed Genes and microRNAs in Myxoid Liposarcoma in order to Reveal New Therapeutic Target Structures**

**Helen Künstlinger**<sup>1</sup>, **Sebastian Dümcke**<sup>2</sup>, **Jana Fassunke**<sup>1</sup>, **Hans-Ulrich Schildhaus**<sup>1</sup>, **Michaela Angelika Kleine**<sup>1</sup>, **Carina Heydt**<sup>1</sup>, **Eva Wardelmann**<sup>1</sup>, **Gunhild Mechtersheimer**<sup>3</sup>, **Marcus Renner**<sup>3</sup>, **Achim Tresch**<sup>2</sup>, **Reinhard Büttner**<sup>1</sup>, **Sabine Merkelbach-Bruse**<sup>1</sup>

<sup>1</sup>Institute of Pathology, University Hospital Cologne, Germany; <sup>2</sup>Computational Biology and Regulatory Networks, Max Planck Institute for Plant Breeding Research Cologne, Germany; <sup>3</sup>Institute of Pathology, University Hospital Heidelberg, Germany

**P081****No Substantial Differences in Circulating microRNA Profile Throughout the Menstrual Cycle**

**Kadri Vaidla**<sup>1,2</sup>, **Merli Saare**<sup>1,2,3</sup>, **Agne Velthut-Meikas**<sup>2,4</sup>, **Jaak Simm**<sup>4</sup>, **Anne Mari Roost**<sup>2</sup>, **Madis Metsis**<sup>2</sup>, **Andres Salumets**<sup>1,2,3</sup>, **Maire Peters**<sup>1,2</sup>

<sup>1</sup>Department of Obstetrics and Gynecology, University of Tartu, Estonia; <sup>2</sup>Competence Centre on Reproductive Medicine and Biology, Estonia; <sup>3</sup>Institute of Biomedicine, University of Tartu, Estonia; <sup>4</sup>Centre for Biology of Integrated Systems, Tallinn University of Technology

**qPCR Data Analysis****P082 – P090****P082****How to do successful gene expression analysis using real-time PCR**

**Jan Hellemans**<sup>1</sup>, **Barbara D'haene**<sup>1</sup>, **Ariane De Ganck**<sup>1</sup>, **Jo Vandesompele**<sup>1,2</sup>

<sup>1</sup>Biogazelle, Belgium; <sup>2</sup>Center for Medical Genetics, Ghent University, Ghent, Belgium

**P083****Simrealization Of Between Repeat Variability In Real Time PCR Reactions**

**Antoon Lievens**<sup>1</sup>, **Stefan Van Aelst**<sup>1</sup>, **Van den Bulcke Marc**<sup>2</sup>, **Goetghebeur Els**<sup>1</sup>

<sup>1</sup>Ghent University, Belgium; <sup>2</sup>Scientific Institute of Public Health, Belgium

**P084****Advanced copy number variant analysis with qbase<sup>PLUS</sup>**

**Barbara D'haene**, **Jo Vandesompele**, **Jan Hellemans**

Biogazelle, Belgium

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**Andrei-Nikolai Spiess**

University Hospital Hamburg-Eppendorf, Germany

**P086****Bioinformatics workflows with Snakemake**

**Johannes Köster**<sup>1,2</sup>

<sup>1</sup>Genome Informatics, Faculty of Medicine, University Duisburg-Essen, Germany; <sup>2</sup>Paediatric Oncology, University Hospital Essen, Germany

**P087****Uncertainty Quantification In Real Time PCR Using Bootstrap**

**Stefan Van Aelst**<sup>1</sup>, **Antoon Lievens**<sup>1</sup>, **Marc Van den Bulcke**<sup>2</sup>, **Els Goetghebeur**<sup>1</sup>

<sup>1</sup>Ghent University, Belgium; <sup>2</sup>Scientific Institute of Public Health, Belgium

**P088****Analysis of Data from Experimental qPCR Systems with RKWard****Stefan Rödiger**<sup>1,2,3</sup>, **Alexander Böhm**<sup>1</sup>, **Jörg Nitschke**<sup>1</sup>, **Peter Schierack**<sup>1</sup>, **Werner Lehmann**<sup>2</sup>, **Ingolf Schimke**<sup>3</sup>, **Christian Schröder**<sup>1</sup>  
<sup>1</sup>Lausitz University of Applied Sciences, Germany; <sup>2</sup>Attomol GmbH, Germany; <sup>3</sup>Charité, Germany**P089****Advantages of Cy0 Quantification Using Spline Interpolation****Davide Sisti**, **Michele Guescini**, **Renato Panebianco**, **Marco B.L. Rocchi**, **Vilberto Stocchi**  
Department of Biomolecular Sciences, University of Urbino, Italy**P090****ChIP-qPCR and qbase<sup>PLUS</sup> jointly identify a MYCN-activated miRNA cluster in cancer****Barbara D'haene**<sup>1</sup>, **Pieter Mestdagh**<sup>1,2</sup>, **Daniel Muth**<sup>3</sup>, **Frank Westerman**<sup>3</sup>, **Frank Speleman**<sup>2</sup>, **Jo Vandesompele**<sup>1,2</sup>  
<sup>1</sup>Biogazelle, Belgium; <sup>2</sup>Center for Medical Genetics, Ghent University, Belgium; <sup>3</sup>Department of Tumour Genetics, German Cancer Center, Heidelberg, Germany**Assay Optimisation, MIQE and Quality Control**  
**P091 - P105****P091****Improving biological relevancy of transcriptional biomarkers experiments by applying the MIQE guidelines to pre-clinical and clinical trials****Steve Harakeh**<sup>1</sup>, **Maxime Doods**<sup>2</sup>, **Abalo Chango**<sup>2</sup>, **Esam Azhar**<sup>1</sup>, **Philippe Pouillart**<sup>2</sup>, **Afif Michel Abdel Nour**<sup>1</sup>, **Flore Depeint**<sup>2</sup>  
<sup>1</sup>KAU/KFRMC/Special Infectious Agents Unit, Biosafety Level 3, Saudi Arabia; <sup>2</sup>Institut Polytechnique LaSalle Beauvais, Beauvais, France**P092****Analytical and Clinical Validation of In House qPCR for Detection of Human Papillomavirus (HPV) using MIQE Guidelines and ISO 15189****Daniela Cochicho**, **Luis Martins**, **Mário Cunha**, **Carmo Ornelas**  
Portuguese Institute of Oncology Lisbon, Francisco Gentil, EPE, Portugal**P093****Removal of Contaminating DNA from Commercial qPCR Master Mixes****Jorn Remi Henriksen**, **Elisabeth Lill Andreassen**, **Morten Elde**  
ArcticZymes AS, Tromsø, Norway**P094****A Quantitative RT-PCR-based Approach To Assess cDNA Quality For Comparative Gene Expression Analysis****Bhaja Krushna Padhi**, **Marianela Rosales**, **Nicholas Huang**, **Guillaume Pelletier**  
Hazard Identification Division, Environmental Health Science and Research Bureau, HECSB, Health Canada, Ottawa, ON, Canada**P095****Assessing the quality and quantity of genomic DNA using the Agilent 2200 TapeStation and genomic DNA Screentape****Isabell Pecht**, **Marcus Gassman**, **Donna McDade Walker**, **Rüdiger Salowsky**  
Agilent Technologies, Germany**P096****Development of a system based on SMART technology for robust transcriptome library preparation from small quantities of degraded sample****Francois-Xavier Sicot**<sup>1</sup>, **Magnolia Bostick**<sup>2</sup>, **Cynthia Chang**<sup>2</sup>, **Tommy Duong**<sup>2</sup>, **Andrew Farmer**<sup>2</sup>  
<sup>1</sup>Takara Bio Europe, France; <sup>2</sup>Clontech Laboratories, Inc. CA, USA**P097****Nucleic acid purification with magnetic particle processor prior to qPCR****Eva Tas**, **Marika Suomalainen**, **Ossian Saris**, **Sini Suomalainen**  
Thermo Fisher Scientific, Vantaa, Finland

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**Reference Gene Selection And Validation For HT29 And VK2/E6E7 Human Epithelial Cell Lines Treated With Probiotic And Pathogenic Bacteria**

**Annette Vivi Jacobsen**<sup>1,2</sup>, **Bisrat Tewelde**<sup>1</sup>, **Jana Jass**<sup>1</sup>, **Nikolai Scherbak**<sup>1</sup>

<sup>1</sup>Örebro University, Sweden; <sup>2</sup>Charles Sturt University, Australia

**P099**

**Optimization of the DNA analysis workflow by applying an automated CTAB buffer-based DNA extraction prior to qPCR**

**Patrick Guertler**<sup>1</sup>, **Andrea Harwardt**<sup>2</sup>, **Adelina Eicheldinger**<sup>1</sup>, **Paul Muschler**<sup>3</sup>, **Ottmar Goerlich**<sup>1</sup>, **Ulrich Busch**<sup>1</sup>

<sup>1</sup>Bavarian Health and Food Safety Authority, Germany; <sup>2</sup>Synlab Labordienstleistungen, Germany; <sup>3</sup>Promega GmbH, Germany

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**MIQE in colic microbiota monitoring for clinical and preclinical trials**

**Maxime Dooms**<sup>2</sup>, **Thierry Ribeiro**<sup>2</sup>, **Esam Azhar**<sup>1</sup>, **Steve Harakeh**<sup>1</sup>, **Flore Depeint**<sup>2</sup>, **Afif Michel Abdel Nour**<sup>1</sup>

<sup>1</sup>KAU/KFRMC/Special Infectious Agents Unit, Biosafety Level 3, Saudi Arabia; <sup>2</sup>Institut Polytechnique LaSalle Beauvais, Beauvais, France

**P101**

**Quality Control of DNA from Formalin-Fixed Paraffin-Embedded and Fresh-Frozen Tissues Prior to Target-Enrichment and Next Generation Sequencing**

**Isabell Pechtl**, **Melissa Liu**, **Maria Celeste Ramirez**, **Rüdiger Salowsky**

Agilent Technologies, Germany

**P102**

**High Throughput Miniaturized PCR using the Echo® 525 Liquid Handler**

**Celeste Glazer**, **Carl Jarman**, **Brent Eaton**

Labcyte, United States of America

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**Quality control of RNA using the Agilent 2200 TapeStation system**

**Isabell Pechtl**, **Arunkumar Padmanaban**, **Rüdiger Salowsky**, **Charmian Cher**

Agilent Technologies, Germany

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**Quantification of GMO at a Level of 0.1 % – A Statistical Approach Using Frequency Distribution**

**Lars Gerdes**, **Ulrich Busch**, **Sven Pecoraro**

Bavarian Health and Food Safety Authority (LGL), Germany

**P105**

**Gene Expression Profiling: qPCR Toolkit for Quality Control**

**David Svec**<sup>1</sup>, **Jenny Jacobsson**<sup>1</sup>, **Robert Sjöback**<sup>1</sup>, **Mikael Kubista**<sup>1,2</sup>

<sup>1</sup>TATAA Biocenter, Sweden; <sup>2</sup>IBT, Academy of Sciences, Czech Republic

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**Editor:**

Michael W. Pfaffl  
Physiology, Freising – Weihenstephan  
Weihenstephaner Berg 3  
Technical University Munich (TUM)

E-mail [Michael.Pfaffl@wzw.tum.de](mailto:Michael.Pfaffl@wzw.tum.de)  
Tel ++49 8161 713511  
Fax ++49 8161 714204  
WWW [www.gene-quantification.info](http://www.gene-quantification.info)

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