



Speakers



Dr Markus Fido
Vela Labs, Austria



Dr Ulrike Herbrand
Charles River Laborato-
ries, Germany



Dr Wolf Hagen
Holtkamp
Paul-Ehrlich Institut,
German Federal Agency
for Vaccines and Bio-
medicines



Dr Henno
van den Hooven
The Netherlands



Dr Michael Leiss
Roche, Diagnostics,
Germany



Dr Dietmar Reusch
Roche Diagnostics,
Germany



Markus Roucka
Vela Labs, Austria

Protein Analytics

Evaluation, Implementation and Use of Suitable
Technologies

28/29 April 2020 | Vienna, Austria



Highlights

- Regulatory Aspects
- Available Methods e.g. HPLC, MS, biophysical methods, immunochemical methods, (non-cellular) bioassays
- Qualification, Validation and Optimisation of Methods
- Host Cell Proteins
- Physicochemical Methods

Bringing Compliance and
Science together

Objective

Biopharmaceutical processes and the specifics in the control of these processes are highly complex. Compared to the “classic” chemical pharmaceutical products and processes, they are frequently on a much higher level – as, for instance, in the case of proteins. In addition, the drug product alone possibly poses real challenges due to the restraints created by the nature of the protein.

Over the last years a huge variety of analytical methods – ranging from physicochemical tests to biological assays – have been established.

As the range of biopharmaceuticals is evolving, new tests have to be developed, validated, transferred, applied at the same time. And, last but not least, they have to be accepted by regulatory authorities.

In this course, pros and cons of established and newly emerging assays will be discussed. Industry experts will share their in-depth knowledge and experiences. During workshops in small groups, you will deepen your knowledge about special methods and their validation issues.

The course has been designed to answer your individual questions concerning assays for the quality control of proteins. In addition you will benefit from information on bioassays and current hot topics like host cell proteins. Therefore, the number of participants is strictly limited.

We recommend early registration.

Background

The number of biopharmaceutical products is increasing, in clinical phases as well as in the market. Due to their high complexity they show an excellent targeting ability. To ensure the quality and targeting ability, a profound analysis of the drug substance’s quality is of utmost importance. This particularly applies to protein based products and in the production of recombinant proteins. However, it cannot be measured by analytical tests alone. Therefore, the development process of all biopharmaceutical products requires non-analytical tests to fully evaluate their functionality and safety. Biopharmaceutical development is thus a multi-disciplinary effort involving many professionals with diverse backgrounds.

Target Audience

This course is of interest to those who are involved in

- Quality Control
- Quality Assurance
- Regulatory Affairs
- Research and Development

of proteins, processes and analytical assays in the biopharmaceutical industry.

Programme

Why do we test? What must be analysed?

- ICH guideline Q6B
- Composition of product (desired product, excipients, impurities, contaminants)
- Application of tests

Regulatory Aspects on Analytical Methods

- What do we expect from bioanalytical methods?
- Biopharmaceuticals - challenges for analytical methods
- Development of novel analytical methods (needs and challenges)
- Validation of analytical methods (LOQ)

Liquid Chromatography

- Reversed-phase high-performance liquid chromatography
- Size-exclusion chromatography
- Ion-exchange chromatography
- Applications for biopharmaceuticals

Controlling Host-Cell Impurities in Biopharmaceuticals

- Why HCP analytics?
- Means to analyze HCP and Limitations of Applied Methods
- Control strategy and Regulatory Expectations

ELISA, ECL Technologies

- ECL introduction using MesoScaleDiscovery device
- ELISA based setups for PK & immunogenicity
- ECL – optimizing immunogenicity assays
- Validation of PK and ADA screening assay

Mass Spectrometry

- Intact Mass Analysis - investigation of antibody heterogeneity
- LC/MS - investigation of primary structure and modifications
- Fundamentals of MALDI-MS
MALDI-MS as a complementary technique to ESI-MS

Characterization of biotherapeutic proteins by size-exclusion chromatography coupled to native mass spectrometry

- Status quo: Methods for therapeutic Protein Characterization
- Current Questions and Challenges
- Innovative Approaches and Methods
- Application and Examples

Bioassays

- Types of Assays for different molecules
- Mechanism of Action (MoA) reflecting assays
- Surrogate Approaches for tedious primary assays
- Biosimilarity assessment

Non-Cellular assays (SPR, Lectin binding)

- Orthogonal methods to Bioassays
- Prediction of potency with non-cellular assays (surrogate assays)
- Characterization of antibodies and its biosimilars
- Explanation of Surface Plasmon Resonance (SPR) technology and lectin array

Glycoanalysis

- Glycosylation of protein
- Why glycoanalysis?
- Principles of glycoanalysis
- Separation based methods
- MS based methods
- Comparison of methods for glycoanalysis

Workshop Sessions

1. Immunochemical Methods
Dr Markus Fido & Dr Henno van den Hooven
2. Spectroscopic Analysis
Dr Dietmar Reusch & Dr Michael Leiss
3. Chromatography
Henno van den Hooven & Wolf Hagen Holtkamp
4. Cellular Assays
Markus Roucka & Dr Ulrike Herbrand

Additional methods for protein characterization

- Relevant Physico-chemical Methods – like CD, fluorescence, IR spectroscopy, AUC, SEC-MALLS, DLS, DSC, microflow imaging, etc.

Biophysical Methods

- Extended characterization focusing on higher-order structure and aggregates/particles
- Methods like CD, IR, NMR and fluorescence spectroscopy, and AUC

Moderators

Dr Markus Fido, VelaLabs, Vienna
Axel H. Schroeder, Concept Heidelberg

Speakers

Dr Markus Fido, VelaLabs, Austria

Markus Fido is CEO and Founder of Vela Laboratories, where he is responsible for Finance & Controlling, Regulatory Affairs & Quality Operations. Before that he worked in different positions at Igeneon / Aphton Biopharma, at Biomin, Baxter and Octapharma. His focus is GMP/GCLP concerns during the development of Biopharmaceuticals, Biosimilars and Biologics. He holds a Ph.D. in Biochemistry and Molecular Microbiology from the Technical University in Graz (Austria).

Dr Ulrike Herbrand, Charles River Laboratories, Germany

Ulrike Herbrand joined Charles River Laboratories in 2007. She is Scientific Director Global in vitro Bioassays and Supervisor for Bioassay Research & Development at Charles River Laboratories' site in Erkrath, Germany. She is an expert in mechanism of action-reflecting bioassays for protein therapeutics, specifically monoclonal antibodies.

Dr Wolf Hagen Holtkamp, PEI, German Federal Institute for Vaccines and Biomedicines

Wolf Hagen Holtkamp studied Biochemistry at the Private Universität Witten-Herdecke. He worked as scientist at the University Witten Herdecke and the Max-Planck-Institut for biophysical Chemistry. In 2017 he joined the Paul-Ehrlich-Institute as Laboratory Head product testing of immunological medicinal products and batch release control.

Dr Henno van den Hooven, The Netherlands

Henno van den Hooven obtained his PhD degree in 1995 in the field of biophysical chemistry at the University of Nijmegen. Until 2017 he was at MSD in Oss, the Netherlands. The responsibilities are mainly for late stage development and cover the field of analytical development of protein drugs.

Dr Michael Leiss, Roche Diagnostics, Germany

Michael Leiss studied biochemistry at the University Regensburg and gained his doctorate at the Max Planck Institute of Biochemistry in Munich. He joined Roche in 2009, where he currently holds a position as lab manager, being responsible for biologics batch release testing and analytical method development.

Dr Dietmar Reusch, Roche Diagnostics, Germany

Dietmar gained his PhD at the Free University of Amsterdam with "Glycosylation analysis of therapeutic antibodies". Since 1988 he is working at Roche Diagnostics. At present Dietmar is heading the Characterisation Analytics department at the Roche facility in Penzberg, Germany.

Markus Roucka, Vela Laboratories, Austria.

Markus started his career in the biotechnical laboratories of Biomin GmbH. Later he studied medical and pharmaceutical biotechnology at the University of Applied Science IMC Krems. He joined VelaLabs in 2008. After eight years as Head of Laboratory & department leader of assay development his current position is now COO and Business development.

If the bill-to-address deviates from the specifications on the right, please fill out here:

Reservation Form (Please complete in full)

Protein Analytics | 28/29 April 2020, Vienna, Austria

Please choose TWO workshops:

- Immunochemical Methods*
- Spectroscopic Analysis*
- Cellular Assays*
- Chromatography*

Title, first name, surname

Department

Company

Important: Please indicate your company's VAT ID Number

Purchase Order Number, if applicable

City

ZIP Code

Country

Phone / Fax

E-Mail (Please fill in)

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General terms and conditions

If you cannot attend the conference you have two options:

1. We are happy to welcome a substitute colleague at any time.
 2. If you have to cancel entirely we must charge the following processing fees:
 - Cancellation until 2 weeks prior to the conference 10 %
 - Cancellation until 1 week prior to the conference 50 %
 - Cancellation within 1 week prior to the conference 100 %
- CONCEPT HEIDELBERG reserves the right to change the materials, instructors,

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Terms of payment: Payable without deductions within 10 days after receipt of invoice.

Important: This is a binding registration and above fees are due in case of can-

cellation or non-appearance. If you cannot take part, you have to inform us in writing. The cancellation fee will then be calculated according to the point of time at which we receive your message.

In case you do not appear at the event without having informed us, you will have to pay the full registration fee, even if you have not made the payment yet. Only after we have received your payment, you are entitled to participate in the conference (receipt of payment will not be confirmed!) (As of January 2012).

German law shall apply. Court of jurisdiction is Heidelberg.

Privacy Policy: By registering for this event, I accept the processing of my Personal Data. Concept Heidelberg will use my data for the processing of this order, for which I hereby declare to agree that my personal data is stored and processed. Concept Heidelberg will only send me information in relation with this order or similar ones. My personal data will not be disclosed to third parties (see also the privacy policy at http://www.gmp-compliance.org/eca_privacy.html). I note that I can ask for the modification, correction or deletion of my data at any time via the contact form on this website.

Date

Tuesday, 28 April 2020, 09.00 – 18.00 h
(Registration and coffee 08.30 -09.00 h)

Wednesday, 29 April 2020, 08.30 – 16.30 h

Venue

Radisson Blu Park Royal Palace Hotel Vienna
Schlossallee 8

1140 Vienna, Austria

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Email: info.parkroyalpalace.vienna@radissonblu.com

Fees (per delegate, plus VAT)

ECA Members € 1,690

APIC Members € 1,790

Non-ECA Members € 1,890

EU GMP Inspectorates € 945

The conference fee is payable in advance after receipt of invoice and includes conference documentation, dinner on the first day, lunch on both days and all refreshments. VAT is reclaimable.

Social Event



In the evening of the first course day, you are cordially invited to a social event. This is an excellent opportunity to share your experiences with colleagues from other companies in a relaxed atmosphere.

Accommodation

CONCEPT HEIDELBERG has reserved a limited number of rooms in the conference hotel. You will receive a room reservation form/POG when you have registered for the course. Reservation should be made directly with the hotel. Early reservation is recommended.

Registration

Via the attached reservation form, by e-mail or by fax message. Or you register online at www.gmp-compliance.org.

Conference language

The official conference language will be English.

Organisation and Contact

ECA has entrusted Concept Heidelberg with the organisation of this event.

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