APEC Combined Biotherapeutics and Advanced Therapies
In-Person Training
December 5-7, 2022

Santiago Chile

Hosted at
University Of Chile
Facultad de Ciencias Químicas y Farmacéuticas de la Universidad de Chile
Olivos 1007 Independencia, Región Metropolitana 8380000 Chile

Day 1: December 5, 2022			
Session 1: Regulatory Agility in Biotherapeutics			
9:00-9:15		**Welcome and overview of in person training** Opening remarks from Northeastern University and University of Chile	
9:15-10:00		**Leveraging learnings to manage regulatory capacity** - ***Reliance*** Full or partial reliance on assessment reports of regulatory authorities from other regions to enable approval and implementation of post-approval changes (PACs), reduce the complexity and regulatory burden associated with lifecycle management, and promote - ***Accelerated assessments*** (early access programs; conditional approvals; expedited access) - ***COVID learnings***-COVID changing paradigm for accelerating vaccine development (ICMRA pilot program if completed)	**Elkiane Macedo Rama** Biologic Products Office ANVISA **Debra Yeskey** Global Regulatory Affairs, CEPI
10:00-11:00		**Expedited Regulatory Programs**	**Gihyun Kim PhD** Deputy Director, Expedited review division of medicine and medical

		A look at existing facilitated regulatory pathways as well as accelerated approvals developed as a result of dealing with the COVID pandemic. For example: -Establishment of quick, frequent, and **continuous communications**/engagement between regulators and manufacturers convergence of regulatory requirements and expectations -Acceptance of **alternate process qualification/validation** approaches, such as leveraging of platform data and prior knowledge, concurrent validation, decoupling DS and DP validation, and/or continuous process verification -Acceptance of alternate approaches, shifting regulatory evaluation of process validation data to **inspections/facility assessments** can further expedite post-approval site transfers and create resources efficiencies for regulators and manufacturers -**Rolling submissions**, eg. approval of post-approval changes in the absence of full data (with certain data provided at a later date)	devices National Institute of Food and Drug Safety Evaluation, Ministry of Food and Drug Safety, Korea **Virginia Beakes-Read,** Executive Director, Global Regulatory and R&D Policy, Amgen
Refreshments 15 minutes			
Session 2: Key Challenges in Biotherapeutics			
11:15-12:15		**Role of Qualified Laboratories for Local Made Products and Products on the Market** The role of qualified laboratories for local made products and reliance on trusted regulatory authorities to waive import retesting. What should regulatory authorities in Latin America be doing in this space? What are minimum capacity requirements? What are the expectation of products already in the market as well as those products in the registration process. A look at registration vs quality control.	**Dr. Omar Tounekti** Gene Therapies Division, Health Canada **Dr. Jared Auclair** Associate Dean of Professional Programs and Graduate Affairs, Northeastern University
Lunch 1 hour 45 minutes			
2:00-4:00		**Accelerated Development and Product Lifecycle for**	**Sarah Kennett**,

		Biotherapeutics An overview of the lifecycle of biotherapeutics from the initial marketing application to post-approval activity will be presented. A case-study will be presented showing some acceleration strategies implemented, and the impact of some of these on the post-approval landscape, with an opportunity to explore how to minimize global post-approval complexity, accelerate approvals, and drive toward regulatory convergence. CMC topics to be addressed include: ● Acceleration strategies and the impact to lifecycle ● Comparability pre- and post-approval ● Divergence of approval timelines and country-specific requirements, including stability data expectations ● ICH Q12 and impact on post-approval change control and lifecycle management This session will include time for group discussion and Q&A.	Executive Portfolio Director, Pharma Technical Regulatory at Genentech, a Member of the Roche Group **Lisa deCardenas,** Regulatory Program Director, Genentech A Member of Roche Group **Philippe Egler,** (Virtual presentation) Senior Technical Regulatory Affairs Manager, F. Hoffmann-La Roche Ltd.
4:00-4:20		**Day 1 wrap up**	
Day 2: December 6, 2022			
Session 3: Cell and Gene Therapies Development			
9:00-10:00		**Case Study: Integrating QBD Principles in Gene Therapy CMC Programs** “What is the biggest challenge to cell and gene CMC?” What are the realities of manufacturing that affect gene therapy product development? A look at regulatory considerations, standards in gene therapy, generation of quality target product profile, process development using quality by design principles, upstream and downstream processing, the drug product, process control strategies, and comparability in relation to cell and gene therapies.	**Michael Lehmike** (Virtual Presentation) Vice President of Science and Industry Affairs, Alliance for Regenerative Medicines **Natalie Fekete** (Virtual Presentation) Manager of Science and Regulatory affairs, Alliance for Regenerative Medicine

10:00-11:00		**The Use of Standards for Regulatory Purposes and Product development** How standards support development of cell and gene therapies and how they can be used in a regulatory submission. Some standards discussed ISO and ASTM standards. (American Society for Testing Materials)	**Judith Arcidiacono, MS** International Regulatory Expert, U.S. Food and Drug Administration
Refreshments 15 minutes			
11:15-12:15		**Unique Nonclinical and Clinical Considerations for AAV-based Gene Therapy Products:** Unique nonclinical and clinical considerations abound cell and gene therapy products. This presentation will discuss unique aspects and considerations for nonclinical and clinical development for AAV-based Gene Therapy products. Non clinical: Challenges with Potency assays; considerations for preclinical studies including toxicology studies, animal selection, etc.; biodistribution and shedding studies including learnings from ICH S12 guideline; translatability of nonclinical to clinical data; and current thinking on integration and insertionsl mutagenesis analysis. Clinical: Considerations on innovative clinical trial designs, immunosuppression and corticosteroid use, benefit-risk assessment, immunogenicity and use of companion diagnostic, developing strategy for long term follow up.	**Nimi Chhina, JD., Ph.D., RAC** (Virtual Presentation) Senior Director, Head of Global R&D and Regulatory Policy, BioMarin Pharmaceutical Inc.
Lunch 1 hour and 45 minutes			
2:00-400		**Case Study: FDA and EMA Approval of gene therapy product** Adeno-associated virus (AAV) is widely used as a delivery vector for gene therapies in clinical studies.	**Ray Qiu** Regulatory Strategy, Bayer

		Several AAV gene therapies are also approved in US and EU. This presentation will discuss development and regulatory perspectives for AAV therapies. The presentation will cover considerations of all phases of AAV gene therapy development, including before clinical trials, during clinical development, marketing authorization and post-marketing. The discussion will include regulatory guidance, precedents and case studies with a deep dive on the recent European Commission (EC) Conditional marketing authorization (CMA) of Roctavian – AAV gene therapy for severe hemophilia A.	**Nimi Chhina, JD., Ph.D., RAC** (Virtual Presentation) Senior Director, Head of Global R&D and Regulatory Policy, BioMarin Pharmaceutical Inc.
4:00-4:15		Wrap up Day 2	
Day 3: December 7, 2022			
Session 4: Gene Therapy Manufacturing			
9:00-10:00		**GMP issues for Advanced Therapies** The unique issues around GMP and Advanced Therapies; GMP considerations for closed automated systems that are used in complete manufacturing of CAR-T products; GMP considerations for autologous products and retention samples and GMP issues related to out of specification products; and other issues. (PAHO regulation of advanced therapy medicinal products: pahohss19004_eng.pdf) WHO consideration for advanced therapy convergence: who-public-consultation_cgtp-white-paper_16_dec_2021.pdf	**Maria Amaya, Ph.D** Senior Tech Advisor Global Quality Compliance and External Collaboration, Genentech, Inc.A Member of the Roche Group
10:00-11:00		**Case Study: GMP for Cell and Gene Therapies** The session will include case studies of mock facilities with guidance on acceptable practices with reference to specific quality guidelines.	**Francesco Cicirello** Director, Quality Assurance Evelo Biosciences **Lucas Chan** Chief Scientific Officer Cellvec pte ltd (Virtual presentation)

11:00-12:30		**Manufacturing: Cell and Gene Therapy Supply chain Challenges** Handling of cell therapy products (including gene modified cells) with regards to chain of identity in autologous (must reach the donor); product and raw material (apheresis product) integrity; other issues. Regulators will learn about controls for data governance in cell and gene therapies. Regulators will also learn some of the differences in data governances and controls in conventional areas and new and emerging areas such as cell and gene therapies. Examples will include a compare and contrast of data controls for monoclonal antibodies vs. gene therapy products. Regulators will learn what to expect during a site visit for cell and gene therapy products. This session will also cover the key critical points in the vector manufacturing process and plasmid and vector quality guidances.	**Dr. Omar Tounekti** Gene Therapies Division, Health Canada *Novartis (TBC)*

12:30-1:00		**OPEN FORUM**	**All Attendees**

End Training Program