Phacilitate

CELL & GENE THERAPY Europe 2015

29-30 September 2015,
Barcelona

Draft agenda

Day 1
Tuesday, 29th September 2015

7.30 Registration & buffet breakfast in the Partnering Zone

Morning plenary

Taking the pulse of the ATMP sector in Europe

- Who's driving Europe's bid for a seat at the top table of global cell & gene therapy?

8.45 **Chair's introduction**
Prof. Chris Mason, *Chair of Regenerative Medicine Bioprocessing,* **University College London**

8.50 **Opening summary: A European 'State of the Nation'**
- What have been the key highlights for the European ATMP industry and wider community over the past 12 months?
- European cell & gene therapy by numbers: Current manufacturing capacity for different modalities, numbers of clinical trials by phase and therapeutic area, key financial highlights

Robert Margolin, Vice President of Corporate Development, **Cognate Bioservices Inc**

9.00 **Investor short presentations & roundtable discussion**
European and North American VCs and fund managers actively investing in European ATMP biotechs discuss/dissect:
- Overall trends and expectations for European private sector biotech funding
- Prospects of the ATMP space as a whole
- Recent successful financings of ATMP companies, revealing keys to securing funding in the current environment
    - Why the difference in VC funding levels between the US and Europe? What are the relevant concerns of investors in Europe vs. the US?
- Investor views on how to overcome the lack of sufficient manufacturing capacity for Phase III and commercial products in Europe

Speakers:
Dr Sara Nunez-Garcia, *Senior Associate*, **Sofinnova Partners**
Ajan Reginald, *Chief Executive Officer*, **Cell Therapy Limited**
Sinclair Dunlop, *Managing Partner*, **Epidarex Capital**

9.40 Public Sector short presentations & roundtable discussion

- Stakeholders both from within Europe and further afield define funding opportunities, incentives, consortia and facilities open to Europeans, including those particularly targeted to ATMP companies

Panellist

Dr Ruxandra Draghia-Akli, *Director, Health Dictorate, Research & Innovation DG,* **European Commission**

Professor Robert Hawkins, *Project Co-Ordinator;* **ATTACK Consortium***; Professor of Medical Oncology,* **University of Manchester**

Dr Anton Simeonov, *Acting Deputy Scientific Director,* **National Centre for Advancing Translational Sciences (NCATS), NIH**

Simon Ellison, *Head of Commercial*, **Cell Therapy Catapult**

10.20 Big Pharma players in Europe

- How are the large multinationals approaching the challenge of developing and manufacturing commercial ATMP products in Europe? What are the key differences with the US from pharma's point of view? Includes companies focused on:
    - Stem cell platforms, including iPS cell therapies and eSCs
    - CARTs and other cellular immunotherapies
    - Gene therapy

Panellists:

Jan Thirkettle, *Vice President, Cell & Gene Therapy Platform, Biopharm R&D,* **GlaxoSmithKline**

Dr Gregory MacMichael, *Global Head of Advanced Therapies- Technology Research & Development,* **Novartis**

Dr Sicco Popma, *Scientific Director, Gene Modified Cell Therapies* **Janssen**

Dr Joern-Peter Halle, *Senior Vice President, Global Head of External Innovation,* **Merck Serono**

Dr Carlos Plata, *Chief Scientific Officer, Chief Medical Officer & Head of R&D,* **Esteve**

Then

Biotech showcase

- 4 leading ATMP biotech innovators reveal their latest data and progress in the development of their platform technologies

10.50 Genvec

Dr Bryan Butman, *Senior Vice President Development***, GenVec**

11.00 Showcase 2

11.10 Showcase 3

11.20 Showcase 4

11.30 Morning coffee in the Partnering Zone

Followed by your choice of 3 highly interactive parallel breakout sessions:

Focus session 1

The decentralised model: How to make Point of Care bioprocessing work in the commercial setting in Europe?

12.00 **Chair's introduction**

12.05 **Regulator's perspective**
Clarifying GMP qualification requirements for point-of-care bioprocessing in Europe

12.25 **Presentation**
Dr Kai Pinkernell, *Global Head of Clinical Business*, **Miltenyi Biotec GmbH**

12.45 **Industry case study**
How to approach the challenge presented by varying levels of adherence to GMP guidelines and directives on a nation-by-nation basis?

1.05 Buffet lunch in the Partnering Zone

Case studies: What does a successful decentralised production system look like in practice?

- Which individual European nations are most progressive in their thinking around decentralised manufacturing models?
- How do the cost implications stack up?
- How to address the QC challenge?
- Which technologies are at the cutting edge? What sorts of cell therapies can they work with?

2.15 **Case study 1**

2.35 Questions & discussion

2.40 ***Presentation reserved***

3.00 Questions & discussion

3.05 **Case study 2**

3.25 Questions & discussion

3.30 **Case study 3**

3.50 Questions & discussion

3.55 Close of session – afternoon tea in the Partnering Zone

Or

Focus session 2

Early clinical strategy: How to efficiently navigate European ATMP regulations on a national basis – a practical guide

12.00 Chair's introduction

12.05 Identifying initiatives from specific European nations which can accelerate early-phase ATMP clinical development

12.25 ***Presentation reserved***

12.45 How to ensure your early clinical programme is designed not just to prove safety and efficacy, but to prepare for reimbursement before pivotal trials in Orphan Disease?

- How to align patients, physicians, regulators, shareholders needs and get prepared for value proposition before pivotal trials ?
- If we plan for success how to interact with HTA/regulators and patients needs/physicians expectations ?
- What studies should be performed to achieve such multiple objectives?

Jean-Philippe Combal, *Chief Operating Officer*, **GenSight Biologics**

1.05 Buffet lunch in the Partnering Zone

2.15 Presentations followed by panel discussion
Spotlight on ATMP product candidates classified as GMOs (genetically modified organisms) in Europe: Regulator and industry perspectives

- Clarifying the specific trial approval, ethical and biosafety requirements in European nations for GMO-classified ATMPs – what are the key differences between major European nations and how do they impact the decision to pursue approval to run a clinical trial?
    - What might be the longer term repercussions in each case for your development and commercialisation strategies?
- What are the general weaknesses that regulators typically see in early clinical studies for ATMPs?
- Identifying the optimal nations and pathways for conducting a GMO-classified ATMP clinical trial

Panellists:
Dr Maria Cristina Galli, *Co-chair of the ATMP platform,* ***EATRIS-ERIC, the European infrastructure for translational medicine*****;** *Department of Cell Biology and Neurosciences*, **Istituto Superiore di Sanità**
Anne-Virginie Eggimann, *Vice President, Regulatory Science*, **bluebird bio, Inc**

3.55 Close of session – afternoon tea in the Partnering Zone

Or

Focus session 3

Enabling allogeneic cell therapy product and supply chain development in Europe

12.00 Chair's introduction

12.05 Presentations followed by panel discussion

Examining varying approaches to address the comparative difficulty in sourcing raw materials and meeting regulatory requirements for cell lines in Europe

- ***Presentation (10 minutes) Dr Philippe Menasche:*** First-in-man trial of human embryonic stem cell-derived cardiac progenitor cells in patients with severe heart failure. A translational experience
- Demystifying the key regulatory differences between Europe and the United States
- iPS cell lines as a case study: What are the key differences in terms of regulatory requirements? (Where does the process start - once you have the master cell bank in place? Where/when does 'GMP' need to begin? How are iPS banking initiatives developing in Europe?)

Panellist:

Aidan Courtney, *Chief Executive Officer,* **Roslin Cells**

Dr Philippe Menasché, *Professor of Cardiovascular Surgery,* **Hôpital Européen Georges Pompidou***; Co-Director, Cell Therapy for Cardiovascular Diseases laboratory,* **French National Institute of Health & Medical Research (INSERM) Unit 970**

Dr Tim Farries, *Director, Regulatory Affairs, Cell & Gene Therapies,* **ERA Consulting**

1.05 Buffet lunch in the Partnering Zone

Regulator and industry perspectives: Meeting the key CMC challenges in Europe

- **Adventitious** agent testing – how to minimise the cost burden?
- Potency assays – how to pick the right one? How to tie in to *in vivo* efficacy?

2.15 Regulator's perspective

- Is there any difference with respect to quality control of autologous cells?
- Should safety controls be the same for all allogenic cell products (e.g. one for one vs one for many)?
- Characterization of cell "stocks"
- When are comparability studies needed for allogeniec cell products?:
    - Changes in manufacturing process
    - Development of new cell stocks

Dr Marcos Timon, *Head of Service*, **AEMPS***; Member,* **Committee for Advanced Therapies (CAT)**

2.35 Industry response

2.55 Case study: Lessons learnt by a company importing an allogeneic cell therapy into Europe for a multinational pivotal clinical trial

- What challenges did they encounter in terms of regulatory requirements and logistics and how did they address them?
    - NiCord global development plan
    - Process optimization and cryo preservation: clinical and business implications
    - Planning an multinational pivotal Phase 3, looking towards the commercial phase

Dr Yael Margolin, *President & Chief Executive Officer,* **Gamida Cell**

3.15 Presentations followed by panel discussion

How are the latest freeze/thaw technology solutions helping developers meet the logistics challenge?

Panellists:

Dr Knut Niss, *Scientific Officer, Cell Processing,* **Novartis Pharmaceuticals Corp**

3.55 Close of session – afternoon tea in the Partnering Zone

Then

Afternoon plenary

Gene therapy business models for Europe

- Reviewing the status of gene editing in Europe
- Addressing key remaining obstacles to enabling large scale gene therapy manufacture and commercialisation

4.25 **Chairs Introduction**
Edward Lanphier, *President & Chief Executive Officer,* **Sangamo BioSciences Inc;** *Chairman,* **Alliance of Regenerative Medicine (ARM)**

4.30 **Short presentations & roundtable discussion: Gene editing**

- How are Europe & Americas key gene editing players helping to advance the field on a global basis?
    - What are the key issues and opportunities they encounter through working in Europe?
- How do leading gene editing companies from North America view Europe?
    - What are their strategies specific to the continent? What are the key barriers to entry for them?

Speakers:
Bill Lundberg, *Chief Scientific Officer,* **CRISPR Therapeutics**
Edward Lanphier, *President & Chief Executive Officer,* **Sangamo BioSciences Inc;** *Chairman,* **Alliance of Regenerative Medicine (ARM)**

4.55 **Short presentations & panel discussion**
What is the optimum business model for big pharma & biotech in the gene therapy space today?

- Comparing and contrasting the varying approaches of major players – what is their rationale and end game? What particular challenges do they face?

Panellist:
Jean-Philippe Combal, *Chief Operating Officer,* **GenSight Biologics**

5.20 **Multiple stakeholder roundtable discussion: How to enable European commercialisation of a gene therapy in the non-rare disease setting?**

- Perspectives from gene therapy developers and solution providers on how to meet key challenges in enabling large scale gene therapy commercialisation in Europe – how do we bridge to a future state in terms of overcoming issues around:
    - Lack of capacity?
    - Raw material sourcing?
    - CMC?
        - How can cutting edge analytics tools and technologies help make the process more targeted and efficient?

Panellists:
Joern Aldag, *Chief Executive Officer,* **uniQure**

6.00 **Close of day 1, followed by a cocktail reception in the Partnering Zone**

Day 2
Wednesday, 30th September 2015

7.30 Registration & buffet breakfast in the Partnering Zone

Morning plenary
Payer and regulatory evolution in Europe: Preparing the next wave of ATMP products for a changing world

8.45 Chair's introduction

8.50 ***Payer, HTA and industry perspectives…***
Profiling the current environment and predicting the future for ATMP evaluation, pricing and reimbursement in Europe

- How do/will HTAs consider cost effectiveness data for ATMPs? Where are there differences in the approaches and attitudes towards these products from national HTAs? How will the continuum between regulators and HTAs work in Europe moving forward?
- Reviewing the pathways to regulatory approval and examining ongoing P&R negotiations and roll-out for Glybera, Holoclar, ChondroCelect and Provenge (in Europe)
  - What pricing/reimbursement models are they seeking/adopting and why?
  - How are the companies in question approaching the challenge of meeting long-term follow up requirements in Europe?
- How are companies currently in pivotal trials thinking about and planning for the pricing and reimbursement stage?

Panellists:
Dr Leeza Osipenko, *Associate Director, NICE Scientific Advice,* **National Institute for Health & Care Excellence (NICE)**
Joern Aldag, *Chief Executive Officer,* **uniQure**
Dr Andrea Chiesi, *Director, R&D Portfolio Management,* **Chiesi Farmaceutici SpA;** *Co-Founder & Chief Executive Officer,* **Holostem**
Eduardo Bravo, *Chief Executive Officer,* **Tigenix**
Dr Rogerio Vivaldi, *Chief Commercial Officer,* **Spark Therapeutics**

10.05 ***…followed by roundtable discussion:***

- What lessons can the ATMP industry learn from these trailblazers to avoid reinventing the wheel, particularly in terms of integrating commercial thinking from the earliest stages of R&D
  - The importance of early engagement with payers – how does this work in practice?
- How can we ensure that ATMP commercialisation is a win-win-win-win for all the major stakeholders: patient, payer, regulator and industry?
  - Which non-traditional reimbursement model(s) would be most appropriate for a potential single-dose, curative (or at least long-acting) therapeutic which offers game-changing efficacy in a given indication? What might be feasible and realistic in the non-rare disease setting in this regard?
    How to ensure that ATMPs are made available to patients across the EU and Europe as a whole, not just within the major 5 nations?
  - Do we need a new set of criteria to assess novel (and often unique) technologies such as ATMP products? If so, what should they be?

10.30 Morning coffee in the Partnering Zone

11.00 Regulatory Roundtable

Examining the repercussions of EU regulatory evolution for the next wave of cell & gene therapy technologies

- **Presentation *(10 minutes) Dr Maria Christina Galli*:** Clinical trial with a GTMP: requirements and procedures to have it approved in Italy
- How will evolving ATMP guidelines at the EMA level facilitate approvals in Europe and help alleviate disharmony between individual member nations and other key countries on a global basis?
    - To what extent might European regulations harmonise more closely with US and/or Japanese regulations in future? (Eg. in the realm of long-term follow-up?)
    - Defining the full extent of recent Japanese regulatory changes and the actual opportunities they present to – and repercussions they have for - European ATMP companies
- How could reclassification of ATMPs impact the European sector as a whole, and specific technology areas in particular? How might the following technologies be classified – and therefore regulated – moving forward?
    - ***CARTs***
        - Will the classification of CARTs as gene therapies by EMA become standard? How would this harmonise with key EU nations at the national level?
        - How would the institution and organisation of the EMA take shape around such a truly large scale ATMP field? Would the structure and/or role of the CAT need to change to be able to accommodate the potential flood of product candidates?
    - ***Genome editing technologies***
        - At what point does this sort of manipulation of cells change the classification of the product?
    - ***Stem cell therapies***

Panellist:

Dr Paula Salmikangas, *Chair,* **Committee for Advanced Therapies (CAT), EMA** *&* *Senior Researcher,* **Finnish Medicines Agency (FIMEA)**
Dr Maria Cristina Galli, *Co-chair of the ATMP platform,* ***EATRIS-ERIC, the European infrastructure for translational medicine*****;** *Department of Cell Biology and Neurosciences,* **Istituto Superiore di Sanità**

11.50 Roundtable discussion

What's the future for Hospital Exemption in the EU?

- Reviewing the original thinking and purpose behind Hospital Exemption, the legal and commercial issues, and the incentives and disincentives to pursue it
- What should the future of HE look like in the eyes of regulators, healthcare sector stakeholders, industry and patients?

Dr Paula Salmikangas, *Chair,* **Committee for Advanced Therapies (CAT), EMA** *&* *Senior Researcher,* **Finnish Medicines Agency (FIMEA)**
Professor Miguel Forte, *Senior Vice President, Clinical & Regulatory*, **TxCell**
Dr Lincoln Tsang, *Partner, Life Science Practice*, **Arnold & Porter LLP**

Then

12.15-1.15
Interactive Hour

- Attendees will receive a choice of highly interactive sessions in various formats such as roundtables for small numbers of participants, tech room demonstrations and "Meet the Professor" Q&As. Details to be announced

1.15 Buffet lunch in the Partnering Zone

Followed by your choice of 3 highly interactive parallel breakout sessions:

Focus session 1

The centralised model: How to make it work in the commercial setting in Europe?

2.25 Chair's introduction

Case studies: Addressing key concerns for ATMP companies seeking to pursue a centralised manufacturing/distribution model in Europe – practical lessons learnt in terms of cost control and supply chain development/management?

- What was the strategic thinking behind facility location(s)? Which individual European nations are most receptive/advanced in terms of facilitating timely import/export and distribution?
- Where were we able to reduce timescales/remove steps in the process?
- Where were the most significant hurdles encountered and how were they addressed?

2.30 Case study 1
Dr Holger Müller, *Senior Vice President, Commercial Operations,* **Cell Medica**

2.50 Case study 2
Presentation reserved

3.10 Presentations & panel discussion
What feasible logistical strategies and technological solutions exist for autologous cell therapy starting materials and products at commercial scale, both within and beyond the boundaries of the EU?

3.50 Close of session – afternoon tea in the Partnering Zone

Or

Focus session 2

Capitalising on regulatory initiatives to smooth the pathway for multinational ATMP trials in Europe

2.25 Chair's introduction

Case studies: Companies that have conducted/are conducting multinational clinical trials in Europe discuss lessons learnt from both regulatory and clinical standpoints (eg. which specific mixes of European nations are optimal, and which are suboptimal?)

- Providing insights into how to make the most of opportunities presented by recently introduced European regulatory initiatives. How do these pathways compare to their US counterparts?

2.30 Adaptive Pathways – how are the pilot projects faring?

- What have been the pros and cons to date?
- How do novel accelerated approval mechanisms such as Adaptive Pathways and the US FDA's Breakthrough Designation actually work in practice?
  - Comparing and contrasting the two pathways
- How to ensure your bioprocess development programme keeps in step?

3.00 The Voluntary Harmonized Procedure – what are the benefits in practical terms?

3.20 Short presentations and Q&A

- Examining the particular issues encountered when conducting multinational trials spanning European nations and the US, for example – how to overcome them?
- How to address the patient recruitment challenge for ATMPs in increasingly competitive therapeutic areas within Europe? (Eg. gene therapies against haemophilia)

Panellist
Anne-Virginie Eggimann, *Vice President, Regulatory Science*, **bluebird bio, Inc**

3.50 Close of session – afternoon tea in the Partnering Zone

Or

Focus session 3

Troubleshooting preclinical development of ATMPs in Europe

2.25 Chair's introduction

Practical insights and solutions for a range of key challenges facing academics and companies preparing to translate fledgling ATMP products from preclinical to First-in-Man clinical trials

2.30 Regulator's perspective
What do European regulators really require/expect when it comes to preclinical evaluation of ATMPs?

- How to address topics which are not necessarily covered by the scientific advice process? (Eg. Do you need to do viral shedding studies? If so, which ones?)

2.50 Industry case studies
How to overcome the limitations of animal models when it comes to ATMPs?

- Weighing the pros and cons of conducting studies in larger animal models – are the insights worth the significant additional costs?
- To what extent can *in vitro* and *in silico* tools be utilised to support – or actually replace - animal studies? Can you make do with one animal model in any circumstances?

3.20 Short presentations & panel discussion
How to identify the right European preclinical/translational outsourcing partner for you?

3.50 Close of session – afternoon tea in the Partnering Zone

Then

Closing plenary

What will it take to successfully commercialise CARTs in Europe within the next 1-2 years?

4.20 Short presentations & roundtable discussion
What is the most realistic, practicable supply chain solution for this particular class of products in Europe? What would be most feasible for rare vs common indications?

- A centralised or decentralised bioprocessing model? What are the relative pros and cons of each in terms of potential to keep Cost of Goods down and throughput up
    - Should CART developers currently in clinical trials invest in automating an existing manual, centralised process to remove some of the steps/cost, or switch to the decentralised model and associated emerging technologies?
- Raw materials access and management – how to manage at commercial scale given the complexity of these products and limitations in Europe such as the lack of a drug masterfile?
- What issues remain in terms of developing and validating required analytical assays and methods for QC?
- How to design the packaging for these products to make their transportation as cost effective as possible?
- How to develop the required educational mechanisms to ready the wider clinical, medical and patient communities about CARTs?
- What can Europe learn from the current success story with CARTs in the US?

Panellists:
Dr Gregory MacMichael, *Global Head of Advanced Therapies- Technology Research & Development*, **Novartis**
Dr Jim Faulkner, *Head of Manufacturing,* **Autolus Ltd**

5.30 Close of Phacilitate Cell & Gene Therapy Europe 2015