



EUROPEAN MEDICINES AGENCY
SCIENCE MEDICINES HEALTH

14 November 2016
EMA/481413/2016
Inspections, Human Medicines Pharmacovigilance and Committees

Workshop on scientific and regulatory challenges of genetically modified cell-based cancer immunotherapy products

Programme

Date: 15 – 16 November 2016, meeting room 03-A

Location: European Medicines Agency, London, E14 5EU, UK

Workshop Chair: Paula Salmikangas, CAT Chair, FIMEA

Day 1

07:45 Registration

08:30 Welcome and introductions

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| ▪ Welcome address | Guido Rasi, EMA | 8.30 – 8.40 |
| ▪ Introduction and regulatory update | Paula Salmikangas, FIMEA | 8.40 – 8.55 |
| ▪ EU Support to ATMP developers | Patrick Celis, EMA | 8.55 – 9.10 |



09:10

**Session 1:
Overview of T-cell therapies – current status**

Session Chairs: Paula Salmikangas, FIMEA and Marit Hystad, NOMA

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| ▪ Chimeric antigen receptor (CAR) T-cells | David Lebwohl, Novartis Pharmaceuticals | 9.10 – 9.40 |
| ▪ Overview on T-cell therapies: current status | Bruce Levine, University of Pennsylvania | 9.40 – 10.10 |
| ▪ Natural killer (NK) cells | Evren Alici, Karolinska University Hospital | 10.10 – 10.40 |

10:40

Coffee Break

11:00

**Session 2:
Next generation T-cells**

Session Chairs: Bernd Gänsbacher, Technical University of Munich and Rune Kjekken, NOMA

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| ▪ Off-the-shelf CARs | Julianne Smith, Cellectis | 11.00– 11.25 |
| ▪ CARs and TRUCKs: how engineered T-cells become living factories | Hinrich Abken, University of Cologne | 11.25 – 11.50 |
| ▪ A universal approach to T-cell therapies | Michael Vasconcelles, Unum Therapeutics | 11.50 – 12.15 |
| ▪ Open discussion: current and future development of the field | | 12.15 – 13.00 |

13:00

Light Lunch

14:00

**Session 3:
Product manufacturing and testing**

Session Chairs: Christiane Niederlaender, MHRA and Paula Salmikangas, FIMEA

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| ▪ Manufacturing challenges - now and how will we ensure patient access to these medicines | Bo Kara, GlaxoSmithKline | 14.00 – 14.30 |
| ▪ Production and validation of CAR T-cells and T-cell receptors (TCRs) in academic setting | Martin Hildebrandt, Technical University of Munich | 14.30 – 15.00 |
| ▪ Quality development considerations – regulatory perspective | Christiane Niederlaender, MHRA | 15.00 – 15.20 |
| ▪ Open discussion on quality challenges | | 15.20 – 16.00 |

16:00

Coffee

16:30

**Session 4:
Non-clinical development**

Session Chairs: Björn Carlsson, MPA; Metoda Lipnik-Stangelj, University of Ljubljana and Dariusz Sladowski, University of Warsaw

- Biomarkers of response for translational research Margo Roberts, Kite Pharma 16.30 – 17.00
- Preclinical safety testing of enhanced-affinity TCRs for adoptive T-cell therapy Andrew Gerry, Adaptimmune 17.00 – 17.30
- Beyond HER2 CAR T-cells: consider how far you have fallen... Nabil Ahmed, Baylor College of Medicines 17.30 – 18.00
- Challenges in the non-clinical development of CARs and TCRs Björn Carlsson, MPA 18.00 – 18.20
- Open discussion on non-clinical challenges 18.20 – 19.00

19:00

End of Day 1

Day 2

09:00 **Session 5: Clinical challenges and experience**

Session Chairs: Martina Schüßler-Lenz, PEI and Olli Tenhunen, FIMEA

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| ▪ Clinical and regulatory challenges in the development of CAR-modified and TCR-modified T-cells in the EU | Martina Schüßler-Lenz, PEI | 9.00 – 9.20 |
| ▪ Experience from scientific advices for CARs/TCRs | Olli Tenhunen, FIMEA | 9.20 – 9.40 |
| ▪ FDA pilot project to develop a clinical database to examine safety in trials using CAR T-cells | Maura O’Leary, FDA/CBER | 9.40 – 10.10 |
| ▪ Challenges related to the translation of TCRs to the clinic – the view of an academic developer | Gerald Willimsky, Charité, University Berlin | 10.10 – 10.40 |
| ▪ Taking CARs/TCRs from first-in-man trials to marketing authorisation – the view from a pharmaceutical developer | Stanley Frankel, Celgene Corporation | 10.40 – 11.10 |

11:10 **Coffee**

11:30 **Continues from Session 5**

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| ▪ Open discussion on clinical development | | 11.30 – 12.15 |
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12:15 **Conclusions and closure of the workshop**

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| ▪ Regulatory / scientific challenges and conclusions | Session Chairs | 12.15 – 12.55 |
| ▪ Close of the workshop | Paula Salmikangas, FIMEA | 12.55 – 13.00 |

13:00 **End of the workshop**
