PEGS EUROPE

Protein & Antibody Engineering Summit

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SPEAKER Q&A

Dr. Jens Lohrmann, Senior Global Program Manager, Translational Clinical Oncology, Novartis Institutes for BioMedical Research, spoke with CHI to discuss his upcoming presentation, "Challenges & Lessons Learned in ADC CMC Development & Outsourcing," taking place at the Engineering Next-Generation Antibody-Drug Conjugates conference on 31 October - 1 November 2016 as part of the 8th Annual PEGS Europe event in Lisbon, Portugal.

Before recently joining Translational Clinical Oncology at the Novartis Institutes for BioMedical Research as Senior Global Program Manager, overseeing clinical ADC and Immuno-oncology programs, Dr Lohrmann had been Technical Project Leader at Novartis Biologics Technical Development and Manufacturing Unit since 2010, leading several programs from candidate selection into Ph I trials. He was pivotal in developing and establishing Novartis' ADC CMC strategy, leading the ADC portfolio successfully from research into pre-clinical and clinical phase. Prior to working as program manager, he was heading a bioanalytical lab responsible for developing cell based functional potency as well as effector function (ADCC) assays. Dr Lohrmann began his industrial career at Genovac/Aldevron, focusing on development of various customized antibody services such as genetic immunization and antibody purification. He received his Ph.D in Molecular Signal Transduction from the Albert-Ludwig's-University in Freiburg, Germany. Prior to his doctoral thesis, he enrolled at Universities in Germany and Australia.

Q: What are the downsides of making a group's ADCs in the lab rather than purchasing them?

- Indeed, buy vs make is one of the most important decisions in ADC CMC development
- Pro Buy:
  - For ADCs and other highly active compounds you might not have access to facilities with the right production capabilities
  - Building new facilities is obviously a costly exercise
  - Opportunity to leverage the know-how of CMOs with proven track-record
  - Can be part of business continuity strategy
- Pro Make:
  - Flexibility! (access to ideal manufacturing slot, shifting priorities etc. – no upfront commitments)
  - Avoids complex external process transfers vs well established internal processes (no need to adjust to processes of CMO)
  - Communication aspects – usually internal communication flow easier (language, cultural aspects, time zone!)
  - Transfers facilitated by co-localization of development & manufacturing sites & established interfaces/processes
  - Usually one DS & DP analytical release site
  - Simple quality governance

Q: What are some challenges associated with scaling up ADC production and site-transfers?

- Some ADC crosslinking technologies have an inherent un-robust process, and as such are prone to upscale issues
- Solid DoE dataset established during process development facilitates process transfer & upscale
- Critical quality parameters often trade off (drug antibody ratio vs aggregation) and require good understanding of required quality target product profile (QTPP)
- Upscale challenges often require sophisticated analytical tools to identify root cause

Q: What are your experiences with the impact of conjugation processes on key product quality attributes?

- Biologics paradigm: the process is the product
- Process can largely influence key PQA and requires solid understanding of process / DoE
- Subtle process changes can influence quality profile significantly!

Q: What are you most looking forward to at the PEGS Europe event?

- Networking!
- New insights by speaking to colleagues and hearing their challenges & approaches

To learn more about his presentation and the PEGS Europe Summit, visit **PEGSummitEurope.com/Antibody-Drug-Conjugates**