The Vaccines Consistency Approach project: Achievements and way forward

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on behalf of EPAA vaccines project
Background

• Quality control testing for vaccines is mandatory for batch release to ensure safety and potency of each batch

• Quality control testing may include:
  – *in vivo* potency tests on final products (mostly for inactivated products): challenge, serological test
  – safety tests in animals during production and on final product.

• The vaccines consistency approach (VCA) has the potential to replace in vivo potency or specific safety testing for quality control purposes
The vaccines consistency approach

• Is based upon:
  – thorough characterization of the vaccine during manufacture
  – the principle that the quality of subsequent batches is guaranteed by the strict application of a quality system and of a consistent production of batches identical to reference lots of known potency and safety.

• Is used for recently registered vaccines
  (older vaccines continue to rely on tests in laboratory animals for confirming the quality of each batch)
History

• Workshop on the approach and its potential to reduce the number of animal tests used in quality control of human and veterinary vaccines* jointly organised by EURL ECVAM and EPAA on 11-12 January 2010 in Brussels
• VCA Project approved in late 2010 and Kick-off meeting held in March 2011
• Technical Committee meeting on 30 September 2011 worked on generic data packages, selected priority vaccines and established expert working groups

*De Mattia et al 2011, *The consistency approach for quality control of vaccines: A strategy to improve quality control and implement 3Rs*, Biologicals 39, 59-65
Project aims

• To provide a forum for collaboration between all stakeholders on alternative methods

• Open discussion on requirements, issues and solutions

• Identify key areas to focus on
4 Key areas identified & progressed

1. DTaP
   - Workshop organised in August 2012
   - No activities started since a lot of activities elsewhere (avoid duplication)

2. Human rabies
   - Workshops organised in October 2012 and May 2015
   - All agreed that in vitro ELISA is acceptable to replace current challenge/serology tests
   - Collaborative study to identify most suitable ELISA finalised in 2015
   - Next: In cooperation with EDQM (Council of Europe) preparation of a project proposal for formal validation)
4 Key areas identified & progressed

3. Veterinary rabies

- Workshop organised in November 2012
- Activities ongoing at manufacturer level
- Wait for decision regarding Human rabies project
- Now under IMI-2 funding programme
4 Key areas identified & progressed

4. Clostridial vaccines

• Replacing animal safety tests with cell culture system based on a method developed with NC3Rs support
• Workshops organised with EDQM, Council of Europe in March and September 2013 prepared Clostridium septicum vaccine collaborative study (BSP130)
• EDQM BSP130 study demonstrating concordance of in vivo and in vitro methods successfully completed in 2015
• Workshop in September 2015 discussed its results
• Now a proposal for Phase III study (formal in vitro test validation) as part of BSP130
• Aim to get the alternative methods in Ph.Eur.
EPAA support

• Funding and organisation of expert meetings and seven workshops

• Preparation of 2 peer reviewed publications
  – De Mattia F. et al. 2011, Biologicals
  – De Mattia F. et al. 2015, Pharmeuropa Bio&SN

• Support to specific collaborative studies (e.g. funded the shipment of testing materials for the Clostridial septicum study)

• Promotion of the VCA through presentations at past EPAA Annual Conferences and other events (e.g. briefings to MEPs / Intergroup)
Challenges

- Global reach-out needed for the vaccines consistency approach
- Development of a toolbox of methods
- Validation needs and criteria
- Regulatory acceptance on a global level

➢ IMI-2 project will address these issues
Achievements

✓ Raised awareness of all stakeholders (industry, regulators, civil society) on the Vaccines Consistency approach

✓ Facilitated cross sharing (between human and vet vaccines) and change in testing paradigms

✓ Prepared the ground for the IMI-2 Vaccines consistency project to ultimately get rid of animal testing in batch release of vaccines
  – IMI-2 funding proposed for approx. 8m Euros
  – to develop new methods and work on validation
  – Regulatory engagement and consultation to make the final leap to acceptance by regulators and implementation and use by industry
Summary

✓ Global agreement on way forward for Human rabies
✓ Proof of concept and start of validation for Clostridium septicum vaccine in process control methods
✓ Starting the dialogue on global harmonisation
✓ IMI-2 project – accepted – due to start early 2016
Acknowledgements

• Coenraad Hendriksen
• Marlies Halder
• Jean-Michel Chapsal
• Keith Redhead
• Marie-Emmanuelle Behr-Gross
• Ian Ragan
• EPAA Secretariat
THANK-YOU