

VACCINES CONSISTENCY APPROACH DTaP WORKSHOP

flash



The European Partnership
for Alternative Approaches to Animal Testing

Den Dolder, The Netherlands, 30-31 August 2012

APPLICATION OF THE 3RS AND THE CONSISTENCY APPROACH FOR IMPROVED VACCINE QUALITY CONTROL

>>> CONSISTENCY TESTING OF DTaP VACCINES: A ROAD MAP FOR IMPLEMENTATION

Since the launch of the vaccine project in April 2011 (see flash report), the project has made good progress. At that meeting, it was agreed to carry out an inventory of existing initiatives in order to prevent duplication, and to identify priority areas for future work based on the potential 3Rs impact. To implement the work, a Technical Committee of experts was established during last year. This was composed of 19 members from European organisations with a number of Observers from the USA, Canada and India. The experts were drawn from both the veterinary and human vaccine sectors continuing the idea that each sector could profit from the experience of the other. This Committee met in September 2011 and February 2012 to discuss and identify the priorities and to establish a framework for implementing the consistency approach for lot release of the selected vaccines.

The projects chosen were: human and veterinary rabies vaccines, DTaP (diphtheria, tetanus and acellular pertussis combination vaccines) and clostridial vaccines. The four projects, two on human and two on veterinary vaccines, present serious animal welfare issues through the current use of large numbers of animals in challenge tests for verifying the potency of the final lots.

Even with the breadth of experience of the Technical Committee it was recognised that the scientific and regulatory issues for each of these projects would demand separate work streams and additional expertise. Thus, project leaders were chosen from among the Technical Committee membership to advance the projects according to their individual needs. For the rabies and DTaP vaccine projects it was agreed that further focused workshops were needed and these were all planned to take place in 2012. The first to be held was on DTaP vaccine in the Netherlands on the 30th and 31st August.

The meeting was attended by 22 participants from academia, manufacturers and regulatory and standardisation bodies, including manufacturers from Brazil and India. The focus of the workshop was on the feasibility of the consistency approach as a new paradigm in the quality control of DTaP vaccines. For this, the meeting's aims were:

- to get an overview of current practices and ongoing research studies that might be relevant for the implementation of the consistency approach to lot release testing of DTaP vaccines
- to establish a list of methods/technologies that could be used for in-process control and the characterisation of intermediate and/or final products
- to identify opportunities and impediments in applying the consistency principle to lot release
- to identify potential gaps and agree about possible solutions
- to discuss the way forward, including a roadmap to initiate and guide research for method development and implementation activities.

This was an ambitious agenda requiring division of the participants into separate groups which worked long into the evening of the first day. However, a consensus was reached on defining the critical manufacturing and quality control steps on the path from seeds and fermentation to final lot testing. Along this line, it was discussed whether in-process tests are currently existing for each step, as had been detailed in some of the presentations, whether consistency limits need to be defined for these tests to assure final product quality, and whether new tests still remain to be developed. This gap analysis identified not only what



needed to be done but also how this might be achieved. The meeting participants expressed a willingness for informal exchanges of materials and assays to gain experience of their performance with multiple vaccine batches and in different laboratories, including those of the manufacturers. This would be an important and useful step on the way to collaborative studies for test validation. The Vaccines Project Committee offered to act as the co-ordinator of proposed exchanges and to monitor progress of such work. The second issue of establishing consistency parameters for existing tests will

be best approached when manufacturers disclose historical consistency data and the results of their in-process controls. A concrete example is the detoxification step of toxoid manufacture. The manufacturers were encouraged to analyse the data they have collected from their in-process tests and to assess their use to demonstrate successful detoxification. If these and data from other in-process controls can be made available for sharing between manufacturers, their analysis will be proposed as the subject of the next meeting of this group.

Participating Organisations

- ANSM (Agence nationale de sécurité du médicament et des produits de santé), France
- EDQM (European Directorate for the Quality of Medicines & Healthcare), France
- EMA (European Medicines Agency)
- EPAA
- EURL ECVAM (European Union Reference Laboratory for Alternatives to Animal Testing), Italy
- GSK Bio (GlaxoSmithKline Biologicals), Belgium
- ISP (Institut Scientifique de Santé Public), Belgium
- Instituto Butantan, Brazil
- NIBSC (National Institute for Biological Standards and Control), UK
- NVD (Novartis Vaccines and Diagnostics), Switzerland
- NVI (Nederlands Vaccin Instituut), The Netherlands
- PEI (Paul Ehrlich Institute), Germany
- RIVM (Rijksinstituut voor Volksgezondheid en Milieu), The Netherlands
- Sanofi-Pasteur, France
- Serum Institute of India

Next Steps

- Consistency Approach Project Workshop #2 Human Rabies Vaccines : 8-9 October 2012 - Arcachon, France
- Consistency Approach Project Workshop #3 Veterinary Rabies Vaccines : 5-6 November 2012 - Brussels, Belgium
- Consistency Approach Project Workshop #4 Clostridial Vaccines : Early 2013, TBD

About...

The Vaccines Consistency Approach project is one of the flagships 3Rs projects of the EPAA.

Further information is available in the dedicated factsheet.

>>> Download it from the EPAA website



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