



EUROPEAN PHARMACOPOEIA BIOLOGICAL STANDARDISATION PROGRAMME

ACHIEVEMENTS IN 2005

The following projects were initiated or pursued:

In the field of vaccines for human use:

- Feasibility study for establishment of common *in vitro* potency assay for inactivated poliomyelitis vaccine (IPV)
- Validation of alternatives to Auszyme ELISA kits for *in vitro* potency assay of rDNA hepatitis B vaccines
- Validation of serological method for potency assay of acellular pertussis vaccine
- Standardisation of assay for residual pertussis toxin
- Standardisation of test on “Molecular Size Distribution” of haemophilus influenzae type B conjugate vaccine
- Standardisation of human influenza vaccine serology
- Establishment of BRP and validation of methods for vaccinia immunoglobulin
- Validation of NMR methods for quality control of polysaccharide vaccines
- Establishment of replacement batches for hepatitis A vaccine BRP

IN THE FIELD OF VACCINES FOR VETERINARY USE

- Establishment of mycoplasma reference strains BRPs
- Establishment of equine influenza antiserum BRP batch 2

IN THE FIELD OF BLOOD AND PLASMA PRODUCTS

- Establishment of BRP for normal human plasma for assay of SD-plasma and fibrin sealant kits
- Establishment of human coagulation factor VII concentrate BRP
- Establishment of replacement batches for human normal immunoglobulin BRP
- Establishment of immunoglobulin panel for anti-D antibodies test BRP
- Validation of *in vitro* assay method for tetanus immunoglobulin

IN THE FIELD OF BIOTECHNOLOGY PRODUCTS

- Establishment of somatropin CRS batch 2
- Establishment of heparin sodium BRP batch 3
- Establishment of an HPLC potency assay for interferon alfa2
- Establishment of low molecular mass heparin for calibration BRP batch 2

The studies led to the adoption of the following reference preparations in 2005:

- Newcastle disease vaccine (inactivated) BRPs for the *in vitro* potency assay
- Immunoglobulin panel for anti-D antibodies test BRP

- Vaccinia immunoglobulin BRP
- Human immunoglobulin BRP batch 3
- Human immunoglobulin (molecular size) BRP batch 1

The full reports on the concluded collaborative studies were published/will be published in Pharmeuropa-Bio 2005-1 and 2006-1, respectively.

In 2005 significant progress was made in the project aiming at the establishment of mycoplasma reference strains. The technically demanding production of a sufficient number of vials of reference strains for *Mycoplasma hyorhinis*, *M. synoviae*, *M. orale*, *M. fermentans* and *Acholeplasma laidlawii* has been completed. Depending on the result of final suitability checks, it is assumed that the reference preparations can be made available in early 2006. It is intended to make them globally available in the context of international harmonisation efforts (VICH).

Strong efforts were made to apply the 3R concept to the field of quality control of biologicals. The *in vitro* potency assay for Newcastle disease vaccine (inactivated) that had been validated in a collaborative study in 2004, has been presented to the Ph. Eur. Expert Group 15V and led to a revision of the monograph; the revised monograph was adopted by the Ph. Eur. Commission in November 2005. Furthermore, an international symposium was organised together with ECVAM (European Centre for Validation of Alternative Methods) and with the support of WHO in Geneva on 16 March 2005 in order to evaluate possibilities for replacement of the *in vivo* potency test for whole cell pertussis vaccine (Kendrick test). The proceedings of the symposium have been published and follow-up activities have been initiated. Three new projects were initiated in 2005 in the context of the 3R concept: one projects aims at the replacement of the challenge assay for tetanus immunoglobulin by an *in vitro* assay; a second one attempts to better standardise the assay for residual pertussis toxin and ultimately replace the *in vivo* histamine challenge test by an *in vitro* assay; the third project extends previous projects on the development of serological assays to replace *in vivo* challenge as batch potency test for vaccines containing diphtheria and tetanus components to acellular pertussis vaccine. The goal is to enable the performance of the potency assay for vaccines containing all these components using serum from the same animals. This will enormously reduce the number of animals needed for these assays.

As in previous years, co-operation with international partners continued; projects to establish common standards were set up whenever possible with the WHO Expert Committee on Biological Standardisation (ECBS); an example includes the establishment of a standard for low molecular mass heparin for calibration. The project for the establishment of the immunoglobulin panel for anti-D antibodies test BRP was run together with FDA/CBER