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Immunological studies on Tetanus toxoid

Rakesh Kumar

Serum Institute of India Limited, India

Tetanus toxoid is one of the most successful vaccines used in immunization program almost all over the world. Neonatal tetanus can be prevented by immunizing women of childbearing age with tetanus toxoid, either during pregnancy or outside of pregnancy. Tetanus vaccine is used either in mono or in combination with other antigens i.e., Diphtheria, Pertussis (whole cell or acellular), Hepatitis-B, *Haemophilus influenza*-B, Inactivated polio vaccine etc. Tetanus toxoid is produced batch-wise using complex media, often containing poorly defined components. Therefore, batch related quality control to guarantee safety and potency is a statutory requirement. In the new concept, quality control is seen as an instrument to monitor consistency of the critical steps in the production process and testing of vaccines. Monitoring consistency places emphasis on *in vitro* methods, since *in vivo* tests are less appropriate (expensive, time consuming and inaccurate) for this purpose. Immunochemical techniques may include the use of polyclonal antibodies for direct ELISA or monoclonal antibodies in capture ELISA and immunoblotting to indicate local differences in antigenicity.

Biography

Rakesh Kumar has obtained his MSc and MPhil (Microbiology) from H.P. University, India and later being awarded his PhD in Biotechnology by University of Pune. In January 1982, he has joined Central Research Institute, Kasauli under Government of India, Ministry of Health and Family Welfare and worked till July 1994. He has joined Serum Institute of India Limited in 1994 as a Manager and devoted his full time to the increasing success of Serum Institute culminating in his appointments in 1997 as Dy. Director (Production), Additional Director (Production) in 2003 and as a Director in 2005. He has had full time, hands of experience in Scientific and Compliance Professional in various aspects of Bio-pharmaceutical industry, excellent knowledge & understanding of Research, Development and Production of Biologicals, International regulatory requirements, mentoring and coaching skills, exhaustive work for process development, optimization, set-up, subsequent production and formulation of various mono-valent and combination vaccines.

rakesh.kumar@seruminstitute.com

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