

2nd International Conference and Expo on Vaccines and Vaccination

November 20-21, 2017 Dubai, UAE

Development of Novel Vaccines Utilizing a Recombinant Nanoparticle Technology Platform

Atin Tomar

CPL Biologicals Private Limited, India

A novel technology platform for recombinant vaccines with significant advantages over conventional vaccines: carefully designed genetic constructs enable production of immunogenic protein-based nanoparticles against key antigenic components of pathogens, which enable functional immunity and protection against infection and disease. The platform is based on genetically engineered baculovirus constructs that in *Spodoptera frugiperda* (Sf9) [Lepidopteran] cells (BV/Sf9) efficiently produce correctly folded, complex antigens as nanoparticles that induce durable, neutralizing and protective immunity (demonstrated in pre-clinical and clinical studies). Our innovation introduces a significant immunologic advantage, embodied by the presentation of antigens as highly immunogenic particles in their native configuration, and sound principles of development, as a scalable, efficient recombinant vaccine production system. Unlike traditional vaccine manufacturing, infectious agents are not required for manufacturing based on this platform. This platform technology is completely recombinant, enabling efficient and safe manufacture of vaccines against highly pathogenic targets. The platform manufacturing process uses no animal source material, there is no requirements for higher BSL facilities and, therefore, no safety threats. This recombinant technology platform is the basis for a portfolio of novel vaccines that represent important advances and address current unmet medical needs. H1N1 (Swine Flu) and Seasonal Influenza vaccines have already been licensed for commercialization in India. Other products currently under development include vaccines against Rabies Virus, Varicella Zoster Virus, Zika Virus, MERS Virus, Ebola Virus etc. The technology also enables Halal certification for the vaccines. H1N1 (Swine Flu) vaccine and Seasonal Influenza vaccines have already been Halal certified.

Biography:

Atin Tomar is President & CEO of CPL Biologicals, a joint venture of Cadila Pharmaceuticals, India and Novavax Inc, USA. Atin brings with him comprehensive experience in the Biotechnology industry, globally. Atin's experience and expertise spans from Process Development, Technology Transfer and Manufacturing to Business Development, Licensing and Commercialization. Atin completed his B.Tech (Hons) in Biotechnology and Biochemical Engineering from the Indian Institute of Technology (IIT) Kharagpur, India, MS in Biological Engineering from the University of Georgia, Athens, USA and Post-Graduate Programme in Management (MBA) in Finance and Strategy & Leadership from the Indian School of Business (ISB), Hyderabad, India.