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### Recent advances in vaccine delivery systems

**Prabhakar Reddy Veerareddy**  
Palamuru University, India

Louis Pasteur coined the word “vaccine” to tribute first successful immunization against small pox by Edward Jenner. The term vaccine was innovated from “vacca” (cow) since Edward Jenner used cowpox virus to prevent smallpox infection. Vaccination is meant to active immunity in an individual, so that subsequent contact with the microorganism following natural infection induces strong protective immune response. Vaccine is a suspension of live or inactivated or fractionated bacteria or viruses which have been make non-pathogenic and is given to induce an immune response and prevent disease. Inactivated vaccines are produced by growing a virulent virus in eggs and then treating with an inactivating agent like beta propiolactone. Recombinant vaccines are which genes for desired antigens of a microbe are inserted into a vector. DNA is injected into the muscle of the animal being vaccinated with a gene gun that uses compressed gas to blow the DNA into the muscle cells. Live vaccines are easy to prepare and relatively inexpensive and give good immunity. Live vaccines are the heat resistant vaccines and they have the advantage in village use and easy transportation in villages. Finally cost is a significant factor to consider the preparation of vaccines. All the live vaccines are relatively cheap and can be even cheaper if they are produced locally. Inactivated vaccine is more expensive and the recombinant vaccines are very expensive when produced commercially. The selection of which vaccine to use is going to depend on the previous factors and on the particular regional conditions.

### Biography

Prabhakar Reddy Veerareddy is an eminent Teacher, accomplished Researcher in Pharmaceutical Sciences. Currently he is serving as Principal at College of Pharmacy, Palamuru University, Mahabubnagar, Telangana State, India. He has spent one year at Butler University, Indiana Polis, USA for Post-doctoral Research and pursued his Doctoral thesis (Pharmaceutics) at Novel Drug Delivery Laboratories in Kakatiya University, India during 2005. He has attended many symposiums and workshops at the National and International level. He has more than 80 research publications in several international journals and has guided 70 M Pharm students and 6 PhD students.

[vpreddyindia@gmail.com](mailto:vpreddyindia@gmail.com)

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