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Nanomaterials for novel vaccine development in animal sciences

Vaccines in the current scenario of a research play particular role in prophylactic, therapeutic agents in cancer, disease and different types of the infections. Synthetic nanoparticles now a day are playing a significant role in vaccines designs and development because these synthetic nanoparticles based vaccines show greater safety, efficacy, and longevity over the previously used vaccines. Nanocarriers with various biotechnological properties and structures have been used vastly both *in vitro* and *in vivo* drug and gene delivery. The groups of nanocarriers have been polymeric nanoparticles, lipid-based carriers (liposome, micelle, dendrimers, carbon nanotubes, and gold nanoparticles are some of the members of the lipid-based nanocarriers and these polymeric nanoparticles delivery system have huge properties which include these easily biodegradable, biocompatible, inexpensive, no-immunogenic, non-toxic, water soluble and most importantly easy to be synthesized. However, some obstacles still remain due to lack of real/fundamental knowledge on the detail molecular mechanism of work and *in vivo* bioeffects of these nanoparticles. These basic facts of the *in vivo* biodistribution and fate of nanoparticles will ultimately extra gate design of the new nanoparticles comprising the vaccines for the future. This keynote address is a broad overview of the current scenario in nanoparticle in vaccinology and modern vaccine development.

Biography

Sharad Kumar Yadav has 30 years of teaching and research experience and has served to various senior positions of the University including Registrar of the DUVASU University. He is currently Professor, Head of Department of Veterinary Microbiology, and Director at Cow Research Institute at DUVASU, Mathura, India. He has published a number of papers in reputed International & National journals and has a vast experience in the arena of BHV-1 virus.

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