

## Nanobiotechnology: A voyage to future?

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### Abstract

Nanobiotechnology is an emerging field that is potentially changing the way we treat diseases through drug delivery and tissue engineering. Methods of targeting nanoparticles to specific sites of the body while avoiding capture by vital organs are major hurdles that need to be answered. Whether actual or perceived, the potential health hazards associated with the production, distribution and use of nanomaterial must be balanced by the overall benefit that nanobiotechnology has to offer biomedical science such as therapeutic and diagnostic applications. It would be difficult to deny the potential benefits of nanobiotechnology and stop development of research related to it since it has already begun to penetrate many different fields of research. However, nanobiotechnology can be developed using guidelines to insure that the technology does not become too potentially harmful. As Richard Feynmann has rightly predicted that "There is plenty of room at the bottom" to modify and enhance existing technologies by manipulating material properties at the nanoscale, therefore with sufficient time and research nanobiotechnology based early detection, diagnosis and treatment of various diseases may become a reality. Nanobiotechnology may bring immense paradigm shift that we would wonder that how did we live without it?

**Keywords:** Biotechnology, Drug delivery, In vivo, In vitro, Diagnosis, Toxicity, Tissue Engineering.