

Theory, Techniques and Applications of Nanotechnology in Gene Silencing

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Nanotechnology, and its products nanomaterials, has acquired important scientific, technical and commercial value for the production of products with improved performance characteristics. The field of medicine has been no exception, and intense scientific activity in this area is currently underway worldwide, and a few products with improved delivery parameter claims have reached the market.

This book by Dr. Surendra Nimesh and Prof. Ramesh Chandra has special emphasis on gene silencing. Gene silencing, that is thwarting or down regulating a particular gene expression, has acquired significance in tackling certain human diseases, especially by invoking RNA interference (RNAi). This book has been beautifully organized. The first three Chapters deal with nanotechnology and nanoparticles. Next the concept and barriers to gene silencing is discussed in some detail covering essentially small interfering RNA (siRNA). Rest of the book deals essentially with the delivery of siRNA by natural and synthetic polymers, as well as inorganic nanoparticles as carriers.

This book provides an excellent introduction for a beginner interested in this important area of therapeutics technology, as well as for the expert to get a rapid present overview of this science.

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