Nanomedicine: A new paradigm in diagnosis and therapy

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Nanomedicine seeks to exploit a timely convergence of two parallel recent developments in the diagnosis and therapy of disease – the decoding of the human genome that has led to greater understanding of the molecular basis of diseases, and nanotechnology that offers the means to control single molecular interactions. Many ideas which seemed futuristic just a few years ago have already been demonstrated. Some of the developments include advances in the science and technology of multi-functional nanoparticles (gold, iron-gold, polymeric, micelles, nanoassemblies) for probing cellular processes and for targeted delivery; metallic nanoparticles for embryonic stem cell tracking; magnetic nanoparticles as targeted delivery and MRI contrast agents, and nanotemplates for assembly and controlled release.

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