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“SMART” drug based targeted delivery: A new paradigm for nanomedicine strategies

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Targeted drug delivery systems are nano-scale drug carrier molecules designed for improving the communication of cellular and molecular components and biodistribution of tumor targeted drug (chemo) therapeutics. Nanomaterials are generally clusters of molecules, atoms and molecular fragments into extremely small size particles (1-100nm) in nature. Nanomaterials engineered as self-assembled biodegradable particles were used for targeted drug delivery system. Nanocarriers/particles should be- capable of transporting high doses of chemotherapeutic drugs/nano-medicines into the targeted tumor cells without disturbing the normal healthy cells. It is also used for construction of novel targeted drug delivery system and future application in nano-vaccination and nanotechnology. Multifunctional “smart” nanoparticles or carries hold out the possibility of effective drug targeted therapeutics in molecular and cellular levels at the earliest stage. Here, we briefly discuss the significance of targeting strategies and drug delivery system and outline the current approaches and future directions in the improvement of tumor targeting nanomedicines.

Biography

Sugapriya Dhanasekaran has completed her PhD from University of Madras and Post-doctoral studies from Indian Institute of Technology Madras, School of Biotechnology. She worked as a Scientist in IIT-Madras and currently working as an Assistant Professor at Prince Sattam Bin Abdulaziz University, KSA. She has published more than 23 papers and chapters in reputed journals and has been serving as an Editorial Board Member of reputed international journals.

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