

Special Issue

Magnetic Nanoparticles for Bone Regeneration and Cancer Therapy

Message from the Guest Editors

Nanoparticles magneto-responsive are recently studied and already applied in medicine for magnetic resonance imaging, drug delivery systems, tissue regeneration, cancer diagnosis and treatment, extraction of biomolecules and lab-on-a-chip others.

Drug delivery systems can likewise take advantage of magnetism to face its two main challenges: targeting the drug to a specific site and having the ability to control drug release over time. Thus, another possible approach is to implant a magnetic scaffold in the site where the drug must be delivered that will work as a target to attract the magnetic nanoparticles conjugated with the drug and allow the control of their spatial distribution.

Regarding bone tissue regeneration, several in vivo and in vitro studies report osteogenesis improvement after bone or bone cells exposition to a particular intensity of a magnetic field.

Taking all these questions into account, the primary aim of this Special Issue is to summarise recent research and the state-of-the-art use of magnetic nanoparticles in cancer diagnosis and treatment and bone tissue regeneration.

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