

Synthesized of HA(Hyaluronic acid)-MNP(Magnetic nanoparticle)

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HA (Hyaluronic acid) has very bio-compatibility and bio-degradability material for using substance at in-vivo system. So, it was suitable material applied to the nano-carrier in tissue engineering and drug delivery system. And then, we have tried to use a variety of the metal's Characteristic. Especially, we were used magnetic nanoparticles (MNPs). Because MNPs have characteristic of superparamagnetic when the particle size created by nano scale.

Therefore, we synthesized Iron oxide using co-precipitation method. As a result, we synthesized Fe₃O₄ and it confirmed through a PTA (particle tracking analysis). Using these MNPs, we composed HA-MNPs using ADH, HA, Span80 and MNPs in paraffin oil at nitrogen condition. Finally, we adsorbed fluorescence dye (DTDC) at HA-MNPs to confirmed the form and structural stability using a fluorescence microscope analysis. We confirmed that the particles show spherical type HA-MNPs. Consequently, we expect that complex can be applied contrast agents for MRI scans and drug delivery system for the diagnosis and targeted therapy at the same time.