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Synthesis of iron oxide (Fe₃O₄) nanoparticles to reduce LDL cholesterol**Nisar Ali Othi***Metallurgy and Materials Engineering Mehran University of Engineering and Technology Pakistan*

Cholesterol is a lipid (fat) delivered by the liver and is crucial for the typical working of the body. It is an important lipid found in human blood, each cell within the human body has cholesterol in its outer membrane. Cholesterol is carried within the blood by atoms called lipoproteins. A lipoprotein could be a compound containing both lipid (fat) and protein. The two primary sorts of cholesterol are: LDL (low density lipoprotein) – is often referred to as bad cholesterol and HDL (high density lipoprotein) - is often referred to as good or happy cholesterol. Iron oxide (Fe₃O₄) nanoparticles were synthesized directly from Chloride anhydrous (FeCl₃), polyethylene glycol (PEG) and hydrazine (N₂H₂) by hydrothermal method, the size of the Fe₃O₄ nanoparticles can be easily controlled by varying the amount of PEG and hydrazine (N₂H₂). Iron oxide (Fe₃O₄) NPs have suitable surface chemistry and much attention in the field of biomedical due to their unique properties. We reported iron oxide (Fe₃O₄) coated with lysine amino acid (C₆H₁₄N₂O₂) unprecedented removal of cholesterol under UV light. Cholesterol removal was done at different time scale, in 0 min 0% decrease in cholesterol level, in 10 min 8.58% decrease in cholesterol level, and in 20 min 13.3% decrease in cholesterol level to related actual level of cholesterol in the sample.

Biography

Nisar Ali has his expertise in Synthesis and characterization of Iron oxide nanoparticles and its function in reduction of LDL cholesterol. He has experience in Teaching and Research. He is Research fellow and student of Master of Engineering at Mehran University OD Engineering and Technology Jamshoro Pakistan.

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