

Title: (PC-NSM) Preparation and Characterization of Nano-Statins Isolated from Mushroom for Prevention of Atherosclerosis

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Preparation and Characterization of Nano-Statins Isolated from Mushroom for Prevention of Atherosclerosis (PC-NSM): Atherosclerosis, the dominant cause of cardiovascular disease, is a condition in which plaque builds up inside arteries and progresses with narrowing of arteries. There are various medications and treatments available to treat this condition and statins are one of them. They are HMG-CoA reductase inhibitors, prescribed extensively for prevention of atherosclerosis but have various side-effects associated with their consumption when taken in higher dose and in lesser dose, they are not that much effective. Commercial statins have low bioavailability and less solubility in human body due to their hydrophobic nature. Our study aims at preparation of herbal nano-statins from mushroom as an alternative solution to combat this problem. Herbal nano-statins were synthesized using dispersion and wet milling techniques. Characterization has also been done using DLS, FTIR, SEM and HPLC Analysis. Synthesized Herbal nano-statins were compared to standard statins. Nano-statins (80-100nm) were characterized and compared to bulk statins (1000-1200nm) using Dynamic Light Scattering. Fourier Transform Infrared spectroscopy showed the presence of amide groups in both standard and nano-statins. Scanning Electron Microscopic examination supported that herbal formulation is in nano form. Confirmation of statins isolated from mushroom was done using High Peformance Liquid Chromatography. Both the standard and herbal statins eluted out at 9.1 mins. It has been observed that nano-statins are more effective as compared to bulk statins with respect to dosage and their bioavailability. This study may provide insights into their role as anti-inflammatory agent by evaluating their efficacy, in cell lines and in animal models.

Biography

Miss Akansha Mehra, a Research Scholar, is enrolled at Amity Institute of Advanced Research and Studies, Amity University, Noida, India. Her research topic is preparation and characterization of herbal nano-statins for prevention of atherosclerosis. She is in the second year of her Ph. D. She has two patents and one publication.

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