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Development of a process to prepare a co-processed system by means of assembly of nanoparticles with pharmaceutical excipient

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Nowadays, there is a growing interest to search new formulation materials capable to release drugs in a controlled way with less manufacturing process steps. These materials need to have improved properties in relation with the conventional raw materials such as to reduce manufacture costs, to add functionality to the dosage form, to have compatibility with all active substances and to be safe for a specific administration route. Thus, it is recognized the importance of the excipient more than ever, in particular those with additional activities or functions. In the case of a functional excipient for direct compression must provide high flow, excellent capacity to form uniform mixtures and good compressibility among others. To increase the use of the direct compression in the pharmaceutical tableting are needed novel excipient which can be easily adaptable to formulate different drugs. However, this is not an easy task so while more compressible is a material lesser fluid. The technology is more profitable and improved the functionality of a existing excipient using new techniques of processing or combined in a synergistic way two or more excipient in order to form co-processed materials. The purpose of this research was to develop and evaluate a platform for controlled drug delivery systems based on SLN (solid lipid nanoparticle) and a insoluble non-swellable excipient for direct compression (dicalcium phosphate dihydrate (Di-Tab™). SNL were manufactured using glyceryl behenato (Compritol (R)888) by a high shear process in hot temperature.

Biography

Serrano-Mora L E has completed his Bachelor degree in Chemistry from UNAM. Currently, he is pursuing Masters (Chemistry Science) and his project is about co-processed material to be used in controlled release of drugs.

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