J Nanomed Nanotechnol 2018, Volume:9
DOI: 10.4172/2157-7439-C2-071

Febuxostat self-nano emulsifying drug delivery system with enhanced dissolution characters

Usama A Fahmy
King Abdulaziz University, Saudi Arabia

Utilization of lipid-based drug delivery systems has recently gained focus for drugs characterized by poor aqueous solubility. The improved aqueous solubility overcomes one of the main barriers that limit their bioavailability (49%), moderate bioavailability as a result of its poor solubility. The objective of this work was to improve the solubility and oral bioavailability of Febuxostat (FBX), FBX was formulated as self-nano emulsifying drug delivery system (SNEDDS) utilizing various oils, surfactants, and surfactants. The solubility of FBX in various oils, surfactants, and co-surfactants was determined; nine formulae were formulated to determine the smallest globular size, *in vitro* drug release and drug-excipient interaction. Results revealed that stable FBX-SNEDDS were successfully developed. SNEDDS composed of castor oil, Tween20, and propylene glycol 200 successfully improved solubilization of FBX. The cumulative release is not showing a big difference between the control and the formula at the first 20 minutes. But there's a significant increase different between the cumulative releases of the control at 60 minutes, FTIR analysis did not show any drug-excipient interaction.

usamafahmy@hotmail.com