The influence of eudragits and PVP on the modified release of Furosemide

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Furosemide 4-chloro-2-[(furan-2-ylmethyl) amino]-5-sulfamoylbenzoic acid, is widely used as diuretic for the treatment of high blood pressure and fluid retention caused by heart failure or kidney disease. It is considered as a loop diuretic, which inhibits the re-absorption of sodium in the thick ascending limb of the loop of Henle and it is effective in cases of renal failure. Furosemide is characterized by a low solubility and poor permeability in the upper GI tract, thus is classified in the BCS system, as an IV drug. However, with the entrance of furosemide in intestinal fluids a rapid release of the drug occurs, which is accompanied by an increased natriuretic and diuretic effect, causing displeasure to the patients. As a result, a slow release formulation would be probably preferred by patients, because of a lower initial diuretic effect and a more extended duration of action. To this end, we extended our previous research on the modified release of this drug by using PVP and different grades of Eudragit polymers. Eudragits are commonly used when it is required to modify the release rate, and the different grades of polymer offer a variety of physicochemical properties depending on what is desired. These excipients were formulated, in the context of this work, in matrix systems for oral administration.

Speaker Biography

Marilena Vlachou is an Assistant Professor at the National and Kapodistrian University of Athens (NKUoA), Greece. After obtaining her Pharmacy degree from NKUoA, she conducted research related to novel Pharmaceutical Technology techniques at the University of Rhode Island, USA, as a Visiting Research Scientist. She then moved back to Greece to pursue PhD studies on Physical Pharmacy/Pharmaceutical Technology. In her capacity as a member of staff of NKUoA, she teaches two undergraduate courses and one postgraduate, all related to the field of Pharmaceutical Technology. She has co-authored the textbook entitled “Pharmaceutical Technology I: Principles of Physical Pharmacy and Nanotechnology”, 2007, Parisianou Editions, Athens-Greece, (ISBN: 978-960-394-487-4), and has presented her research work in more than fifty International and Domestic Scientific Conferences and has published more than thirty five articles in peer-reviewed Journals. She is a member of Greek Pharmaceutical Society, Greek Society of Pharmaceutical Technology and Greek Society of Cosmetology.

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