

3rd International Conference on**PHARMACEUTICS & NOVEL DRUG DELIVERY SYSTEM**

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3rd International Conference on**CHEMICAL ENGINEERING & TECHNOLOGY**

December 05-06, 2018

Dubai, UAE

An account of melatonin modified release in gastrointestinal fluids**Vlachou M**

National and Kapodistrian University of Athens, Greece

Melatonin (N-acetyl-5-methoxytryptamine, MLT), a hormone synthesized by the pineal gland and released at night, has a regulatory role on sleep in humans. The effect of fast-release formulations on sleep initiation may come from the high amount of melatonin released immediately after administration, while the benefit of the modified release systems comes from the release of melatonin in small dosages during the entire night. A series of matrix tablets was prepared and tested with respect to their ability to release the hormone melatonin in a controlled manner, in order to prevent sleep onset and sleep maintenance dysfunctions. Besides the active ingredient, the tablets were comprised of combinations of the following: HPMC K 15M, low viscosity sodium alginate, microcrystalline cellulose (Avicel PH 102), polyvinylpyrrolidone, lactose, magnesium stearate. The controlled release studies were conducted in two aqueous dissolution media at pH 1.2 and 7.4. The dissolution experiments were carried out in a USP XXIII dissolution apparatus for ten hours (the first three hours at pH 1.2 and the rest seven at pH 7.4). The aim of the current work was to extend our previous studies on the chronobiotic hormone melatonin controlled release, by comparing its release from many solid formulations.

Biography

Marilena Vlachou is an Assistant Professor at the National and Kapodistrian University of Athens, Greece. 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, and has presented her research work in more than fifty International and Domestic Scientific Conferences. She has published more than thirty articles in peer-reviewed Journals and is a member of the Greek Pharmaceutical Society, the Greek Society of Pharmaceutical Technology, and the Greek Section of the Society of Controlled Release of Drugs.

vlachou@pharm.uoa.gr

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