Pharmaceutical Technology Perspectives

Muhammad Taher

IIUM PRESS

INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA

Pharmaceutical Technology

Perspectives

Editor

Muhammad Taher

IIUM Press

Published by:
IIUM Press
International Islamic University Malaysia

First Edition, 2011

Perpustakaan Negara Malaysia Cataloguing-in-Publication Data

Muhammad Taher
Pharmaceutical Technology Perspectives
Muhammad Taher
Include index
Bibliography: p. 149

ISBN: 978-967-418-075-1

Member of Majlis Penerbitan Ilmiah Malaysia – MAPIM
(Malaysian Scholarly Publishing Council)

Printed by :
IIUM PRINTING SDN. BHD.
No. 1, Jalan Industri Batu Caves 1/3
Taman Perindustrian Batu Caves
Batu Caves Centre Point
68100 Batu Caves
Selangor Darul Ehsan

Table of Content

CHAPTER 5

POLYPYRROLE-PEG COMPOSITE FILM FOR DRUG DELIVERY

Khadijah Edueng

Kulliyyah of Pharmacy, International Islamic University Malaysia, Jalan Istana, Bandar Indera Mahkota, 25200 Kuantan, Pahang, Malaysia

The development of polypyrrole-based drug delivery system has gained popularity in the recent years. This is mainly contributed by the unique redox properties of the polypyrrole (Ppy) polymer which permit the movement of ions through it via transfer of electrons. The applicability and processibility of Ppy nevertheless possesses remarkable challenges not only in the synthesis of the polymer, but also its applications, especially in pharmaceutical research field. The combination of Ppy with the widely used polymer in pharmaceutical dosage forms design, polyethylene glycol (PEG) is therefore thought to overcome these limitations, thus enhances the flexibility and improves the physicochemical properties as well as biocompatibility of the resulted composite film. Synthesis of the composite film is preferably carried out using electrochemical method due to the ability of finer control over the variety of parameters that might affect the quality of the film physically and chemically alike. Different types of bioactive may be embedded into the film; proteins and small molecules to name a few. Such composite film offers a great promise as a drug reservoir in the establishment of wireless magnetically steered drug delivery system using magnetic metal, which could be implanted into the body via minimally invasive procedure.