IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.301
Volume 3, Issue 1, August 2023

Development and Characterization of Biodegradable Polymeric Matrices for Sustained Release of Bethanechol HCl

Raman Singh[1] , Kailash Pati Pandey[2], Dr K Sarvanan[3]
Research Scholar, Pharmacy, Bhagwant University Ajmer, Rajasthan, India[1]
Research Scholar, Pharmacy, Bhagwant University Ajmer, Rajasthan, India[2]
Professor, Pharmacy, Bhagwant University Ajmer, Rajasthan, India[3]

Abstract: *Sustained-release drug delivery systems have garnered significant interest for improving patient compliance and therapeutic efficacy. Bethanechol HCl, a cholinergic agent utilized in the treatment of urinary and gastrointestinal disorders, necessitates prolonged drug release to achieve optimal therapeutic outcomes. This research paper focuses on the development and characterization of biodegradable polymeric matrices as sustained-release carriers for Bethanechol HCl. Various biodegradable polymers, including poly(lactic-co-glycolic acid) (PLGA) and poly(lactic acid) (PLA), are explored to optimize the sustained release of Bethanechol HCl. The study involves the formulation of matrices, physicochemical characterization, drug release kinetics, and in vitro degradation analysis, establishing a comprehensive understanding of the sustained-release system's potential for enhancing therapeutic effectiveness.*

Keywords: Biodegradable Polymers, Formulation, Bethanechol

REFERENCES

[1]. Piskin E. Biodegradable polymers as biomaterials. J BiomaterSciPolym Ed. 1995;6(9):775–795. - PubMed
[2]. Taylor P. Global Markets For Implantable Biomaterials [market report on the Internet] Massachusetts: BCC Research; 2015. Jan, [Accessed February, 2018]. [cited March 1, 2016] Available from: http://www.bccresearch.com/market-research/advanced-materials/implantabl....
[3]. Barbucci R. Integrated Biomaterials Science. New York: Kluwer Academic/Plenum Publishers; 2002.
[4]. Langer R, Vacanti JP. Tissue engineering. Science (New York, N. Y.) 1993;260(5110):920–926. - PubMed
[5]. Vacanti JP, Langer R. Tissue engineering: the design and fabrication of living replacement devices for surgical reconstruction and transplantation. Lancet. 1999;354(Suppl 1):S32–S34. – PubMed
[6]. Dianzani C., Zara G.P., Maina G., Pettazzoni P., Pizzimenti S., Rossi F., Gigliotti C.L., Ciamporcero E.S., Daga M., Barrera G. Drug Delivery Nanoparticles in Skin Cancers. BioMed Res. Int. 2014;2014:895986. doi: 10.1155/2014/895986. - DOI - PMC - PubMed
[7]. Omran A.R. The Epidemiologic Transition: A Theory of the Epidemiology of Population Change. Milbank Q. 2005;83:731–757. doi: 10.1111/j.1468-0009.2005.00398.x. - DOI - PMC - PubMed
[8]. Armstrong B.K., Kricker A. The epidemiology of UV induced skin cancer. J. Photochem. Photobiol. B Biol. 2001;63:8–18. doi: 10.1016/S1011-1344(01)00198-1. - DOI – PubMed