IJARSCT



International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)

International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal

Volume 3, Issue 1, October 2023

A Review on Polymer Used in Drug Delivery System

Tejasvinee Sahebrav Chaudhari, Vaibhav Narayan Desale, Tushar Nana Patil, Prathmeshkalu Patil Habiburrehaman Shaikh, Saeed Ahmad

Dr. Uttamrao Mahajan College of Pharmacy, Chalisgaon, Maharashtra, India

Abstract: The current review focuses on polymers in the delivery of medical drugs. These materials include tablets, patches, patches, films, semisolids, and powders. Polymers are the basis of drug delivery because they control drug release from the material. The importance of drug delivery has increased in the last few years and significant progress has been made in the development of new technologies. Polymeric drug delivery systems have evolved significantly over the past two decades. Polymer drug delivery is defined as a structure or material that has the capacity to deliver therapeutic drugs into the body. Biodegradable and biodegradable polymers are promising for many new drug delivery systems. Polymers have played an important role in the advancement of drug delivery by enabling long-term controlled release of therapeutic drugs, cyclic drug delivery, and therapeutic release of hydrophilic and hydrophobic drugs. From the early days of using simple materials, the field has grown tremendously, thanks in part to the innovations of chemical engineers.

Keywords: Polymers, excipients, syntheticpolymer, drug delivery responsive polymers.

REFERENCES

- [1] Anderson JM, Kim SW. Advances in Drug Delivery Systems (3), Book Review. J Pharm Sci. 1989;78:608–9 [Google Scholar].
- [2] Martinho N, Damgé C, Pinto C. Reis, Recent advances in drug delivery systems. J BiomaterNanobiotechn. 2011;2:510–26 [Google Scholar].
- [3] Schmaljohann, D. (2006) Thermo and pH Responsive Polymers in Drug Delivery. Advanced Drug Delivery Reviews, 58, 1655-1670. http://dx.doi.org/10.1016/j.addr.2006.09.020
- [4] Liechty, W.B., et al. (2010) Polymers for Drug Delivery Systems. Annual Review of Chemical and Biomolecular Engineering, 1, 149-173. http://dx.doi.org/10.1146/annurev-chembioeng-073009-100847.
- [5] Pallerlaand, S. and Prabhakar, B. (2013) Review on Polymers in Drug Delivery. American Journal of Pharmtech Research, 3, 901-917.
- [6]Biomaterials Tutorial.http://www.sigmaaldrich.com/material science/biomaterials/tutorial.html
- [7] Jawahar, N. and Meyyanathan, S.N. (2012) Polymeric Nanoparticles for Drug Delivery and Targeting: A Comprehensive Review. International Journal of Health and Allied Sciences, 1, 217-223. http://dx.doi.org/10.4103/2278-344X.107832.
- [8] Shaik, M.R., Korsapati, M. and Panati, D. (2012) Polymers in Controlled Drug Delivery Systems. International Journal of Pharma Sciences, 2, 112-116.
- [9 Yang, W. and Pierstorff, E. (2012) Reservoir Based Polymer Drug Delivery Systems. Journal of Laboratory Automation, 17, 50-58. http://dx.doi.org/10.1177/2211068211428189.
- [10] Srikanth, P., Raju, N., Raja, S.W. and Raj, S.B. (2013) A Review on Oral Controlled Drug Delivery. International Journal of Advanced Pharmaceutics, 3, 51-58.
- [11] Vicky V. Mody, Introduction to Polymeric Drug Delivery, Internet Journal of Medical Update, 5(2): 2010 July;1-2.
- [12] Omanathanu Pillai, Ramesh, Polymers in drug delivery, Current Opinion in chemical biology, Vol 5, issue 4, 2001, 447-451.

DOI: 10.48175/568

ISSN 2581-9429 IJARSCT

IJARSCT



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, October 2023

- [13] Omanathanu Pillai, Ramesh, Polymers in drug delivery, Current Opinion in chemical biology, Vol 5, issue 4, 2001, 447-451.
- [14] Clochard M, Dinand E, Rankin S, Simic S, Brocchini S, New strategies for polymer development in pharmaceutical science-a short review, J Pharm Pharmacol, 2001, 53(9),1175-1184.
- [15] Vyas SP, Khar RK. Controlled Drug Delivery: Concepts and Advances. I st ed. Vallabhprakashan, New Delhi,2002, 156-189.Kathryn E. Uhrich ,Scott M. Cannizzaro , Robert S. Langer, Polymeric Systems for Controlled Drug Release, Chem. Rev, 99, 1999, 3181-3198.
- [16] Reja M, Quadir MA, Haider SS, Comparative evaluation of plastic, hydrophobic and hydrophilic polymers as matrices 00000for controlledrelease drug delivery, J Pharm Sci 692, 2003, 274-291.
- [17] Taylor and Francis, Polymers in Drug Delivery System, 2006, 1-236.
- [18] Hoffman, A.S., Hydrogels for biomedical applications, Adv. Drug Delivery Rev.54, 2002, 3–12.
- [19] Park, J.H., Ye, M.L., and Park, K., Biodegradable polymers for microencapsulation of drugs, Molecules, 10, 146–161, 2005.
- [20] Almeida, Biomedical application of polymer based pharmaceuticals, Biomedical Engineering Group XII,2008.
- [11] Van Savage, G. and Rhodes, C.T., The sustained release coating of solid dosage forms: a historical review, Drug Dev.
- [21] Reja M, Quadir MA, Haider SS. Comparative evaluation of plastic, hydrophobic and hydrophilic polymers as matrices for controlled release drug delivery, J Pharm Sci 692, 2003, 274-291.
- [22] Verhoeven, J, Controlled-release formulations, a hydrophilic matrix containing furosemide, Int. J. Pharm, 45, 1988, 65-69.
- [23] AnkitaRaizada, Polymers In Drug Delivery: A Review, IJPRD, 2(8),2010, 9-20.
- [24] Nokano M, Ogata A, In vitro release characteristics of matrix tablets, Study of Karaya gum and Guar gum as releasemodulators, Ind. J. Pharm. Sc, 68, 6, 2006, 824-826.
- [25] Poddar RK, Rakha P, Singh SK, MishraDN, Bioadhesive Polymers as a Platform for Drug Delivery: Possibilities and Future Trends, Research J on Phamacetical Dosage Form and Technology, 2,1,2010, 40-54.

DOI: 10.48175/568

