World Academy of Science, Engineering and Technology
International Journal of Pharmacological and Pharmaceutical Sciences
Vol:9, No:05, 2015

Development of 90y-Chitosan Complex for Radiosynovectomy

Authors : A. Mirzaei, S. Zolghadri, M. Athari-Allaf, H. Yousefnia, A. R. Jalilian

Abstract : Rheumatoid arthritis is the most common autoimmune disease, leading to the destruction of the joints. The aim of this study was the preparation of 90Y-chitosan complex as a novel agent for radiosynovectomy. The complex was prepared in the diluted acetic acid solution. At the optimized condition, the radiochemical purity of higher than 99% was obtained by ITLC method on Whatman No. 1 and by using a mixture of methanol/water/acetic acid (4:4:2) as the mobile phase. The complex was stable in acidic media (pH=3) and its radiochemical purity was above 98% even after 48 hours. The biodistribution data in rats showed that there was no significant leakage of the injected activity even after 48 h. Considering all of the excellent features of the complex, 90Y-chitosan can be used to manipulate synovial inflammation effectively.

Keywords : chitosan, Y-90, radiosynovectomy, biodistribution
Conference Title : ICRR 2015 : International Conference on Radiopharmacy and Radiopharmaceuticals
Conference Location : Paris, France
Conference Dates : May 18-19, 2015