8th International Conference and Exhibition on

Pharmaceutics & Novel Drug Delivery Systems

March 07-09, 2016   Madrid, Spain

Cell incorporation studies with ^{99m}Tc-Methotrexate loaded chitosan nanoparticles for breast cancer diagnosis

Meliha Ekinci, Derya Ilem-Ozdemir, Evren Gundogdu and **Makbule Asikoglu**
Ege University, Turkey

The aim of this study is to evaluate newly developed radiopharmaceutical's (^{99m}Tc-MTX-CSNPs) incorporation to human breast cancer (MCF-7) and human keratinocyte (HaCaT) cell lines for breast cancer diagnosis. For this purpose, methotrexate (MTX) loaded chitosan nanoparticles (CSNPs) were prepared by ionic gelation process, stored for 6 months and evaluated in terms of particle size, PdI value and zeta potential. Produced MTX-CSNPs were radiolabeled by ^{99m}Tc with high labeling efficiency (>90%). Then, newly developed radiopharmaceutical's target/non-target ratio was investigated with cell culture studies by using MCF-7 and HaCaT cell lines. Results demonstrated that the incorporation of ^{99m}Tc-MTX-CSNPs in breast cancer cells was found about 2-times higher than normal cells. So, ^{99m}Tc-MTX-CSNPs might be used for human breast cancer diagnosis in nuclear medicine patients.

Biography

Meliha Ekinci received her Master's degree in Radiopharmacy from Ege University (Turkey) in 2015. She is currently a Research Assistant at Radiopharmacy Department and also a Doctoral student at Biopharmaceutics and Pharmacokinetics Department, Ege University. She has already published 4 papers in reputed journals. Her research interest is in radiolabeled and evaluated newly developed radiopharmaceuticals for diagnosis of different cancer types.

meliha.ekinci@ege.edu.tr

Notes:

Pharm Anal Acta
ISSN: 2153-2435 PAA, an open access journal

Pharmaceutica 2016
March 07-09, 2016

Volume 7, Issue 1 (Suppl)

Page 90