Research in Pharmaceutical Sciences, 2012;7(5)
School of Pharmacy and Pharmaceutical Sciences
Isfahan University of Medical Sciences

Design and synthesis of 3-benzyl derivatives of ciprofloxacin as new cytotoxic agents,

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Background and Aims: Quinolones and fluroquinolones have known as antibacterial compounds at first; Then this fact has specified that these compound can be used as a cytotoxic agent.
There are some evidence which carboxy moiety at position 3 of quinolones system can be replace by some rings to increase the cytotoxic activity. In this research the 3-carboxy group of ciprofloxacin was replaced by different substituted benzyl group to improve the cytotoxic activity.
Methods: All of designed compound were prepared in two steps: at first using NaBH4 and catalytic amount of p-toluen sulfonic acid , ciprofloxacin was reduced and decarboxylated to a ketone intermediate(I). In second step, condensation of the ketone(I) with appropriate benzaldehyde, produce the desired compounds.
Results: All of synthetized compounds were characterize using TLC and followed by HNMR and IR spectrums.
Conclusions: The cytotoxic effects of synthetized compounds are going to consider.

Keywords: Quinolones; Cytotoxic agents; Topoisomerase enzyme