

NANOCARRIERS OF ANTI-TB DRUG *p*-AMINO SALICYLIC ACID

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Current approaches in using polymers for targeted drug delivery has led to the development of new dosage forms in the pharmaceutical sector. Currently, new anti-tuberculosis drugs are being developed in two main areas: the synthesis of compounds targeting new aims and the modification of existing drugs. In addition, it is improving the work of the delivery of drugs to the lesion focus. Among biocompatible biodegradable polymers widely used in nanopharmaceutical studies, aliphatic esters of lactic and glycolic acid (PLGA), which can be used for the controlled release of various low-molecular medicinal substances, proteins and peptides which are of particular interest.

As a result of the study, a drug polymer containing *p*-aminosalicylic acid residues and gradually hydrolyzed in the blood stream, which has a prolonged effect and a reduced toxicity. The main goal of the work is to create a drug that can significantly reduce the overall duration of treatment and be effective for lethal tuberculosis infection and for resistant forms that will dramatically change the situation of tuberculosis in the world. To achieve the above results, the study was conducted in the presence of a copolymer of lactic and glycolic acid. Method of producing nanoparticles with using emulsions consisted in dispersion and stabilization of one fluid with the help of another, in which it is insoluble. The key criterion for creating an emulsion is the insolubility (or weak solubility) of the dispersed phase is in a homogeneous dispersion medium. Homogenization was carried out using the Ultra-Turrax T10 basic apparatus (IKA, Germany). To obtain the corresponding nanoemulsion in which the drug substance is immobilized in the polymer, several experiments were carried out, with different organic solvents (chloroform and dichloromethane) and stabilizers (PVA and Tween 80). In the experiment with the presence of chloroform and PVA, a nanoemulsion was obtained with an average size of 13.36 nm.

To study the size and morphology of nanoparticles held electronic microscopic analysis. The yield of polymer nanoparticles containing the drug was 68%. The rate of drug released from the matrix of PLGA nanoparticles and was studied under simulating biological conditions, and the amount of drug released into the medium which determined by the spectrophotometric method. Profile antibiotic in vitro release of the nanoparticles shows that over 6 hours gradually released 81.6% PASA it proving its prolonged action.