

Method for producing electrospun dressing material based on polylactic acid (PLA) containing copper nanoparticles and chitosan includes the stage of preparing polymer solutions, including preliminary dissolution of chitosan in an aqueous solution of acetic acid with subsequent dissolution in a mixture of trifluoroacetic acid/dichloromethane (TFA/DCM, 9:1) with the addition of polyethylene oxide (PEO), as well as separate dissolution of PLA in chloroform with subsequent mixing of all components on a magnetic stirrer. The stage of electrospinning dressing material, in which a system with a foil-coated collector is used, where the distance between the needle and the collector is 15 cm, the solution feed rate is 1.0 ml/h, the applied voltage is 21 kV, and the obtained membranes are dried in a vacuum oven at a temperature of 30 °C for 24 h, as a result, the method for producing dressing material includes: a stage of neutralization of dressing material, in which the obtained dressing material is kept in an alkali solution for 12 h, after which it is thoroughly rinsed with distilled water and dried for 24 h at room temperature; the dressing material sterilization stage, where the dressing material is immersed in a 70% ethanol solution for 1 h, and then rinsed three times with sterile phosphate-buffered saline (PBS); the copper nanoparticle modification stage, which is carried out by dropwise application of a CuNPs suspension onto the dressing material, at the rate of 10 µl of a copper nanoparticle solution at a concentration of 100 µg/ml per 1×1 cm sample, after which the dressing material is dried at room temperature for 24 h.