

radioisotopes are used. Radioisotopes are obtaining in a nuclear reactor ( $^{58}\text{Co}$ ) and on cyclotron ( $^{57}\text{Co}$ ). From the point of radioactive safety, the more favorable appeared to be  $^{57}\text{Co}$ . Two variants of introduction of radioactive Cobalt in chemical structure of a preparation are of considered: 1-by exchange of an isotope, 2- by introduce of radioisotopes Cobalt into asparagines Cobalt at stage of it synthesis, which is an intermediate product during synthesis of preparation "Co-101". The second method had been yield with output compound of up 80% and higher. Received labeling preparation has been used for investigation of his own pharmacological kinetics.



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## **APPLICATION OF RADIOISOTOPES IN PHARMACTUTICAL RESEARCH**

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To use of radioisotopes in the processes of receiving radiopharmaceutical diagnostic means it is widely know [1]. Radioactivity labeled chemical compounds, pharmacological kinetics of which allows one solving a concrete diagnostic problem in an organism are used in radiopharmaceutics. In spite of this choice of the radioisotope, possessing the most favorable nuclei-physical characteristics for it to be detected and minimization of beam loadings, be of great importance. Development of a method of introduction of a radioisotope also has important value, as it is included into chemical structure of a radiopharmaceutical preparation.

One more way of use of radioisotopes in pharmaceutics is their use as a radioactive mark at a stage of creation of a new medical product. And in this case, all those moments, which are listed above, take place. Preparations labeling by radioisotopes are used basically for their studying pharmacological kinetics.

In Institute of nuclear physics AS RU, in recent years, works are done on studying pharmacological kinetics of some new medical products, which have been synthesized in the Tashkent pharmaceutical institute. These preparations are on the basis of microelements with a complex set of properties possessing expressed biological activity and have great value in pharmaceutical science of Republic of Uzbekistan. Reception of labeled compounds of all preparations was carried out by a method of introduction of a radioisotope at a stage of their synthesis.

The work presents the results of researches on synthesis and study of pharmacological kinetics of radioactively labeled preparations – PIRACIN, labeled by radioisotope  $^{69\text{m}}\text{Zn}$ ; FERAMED, labeled by radioisotope  $^{59}\text{Fe}$ ; COBAVIT, labeled by radioisotope  $^{57}\text{Co}$ ; VUC, labeled by radioisotope  $^{57}\text{Co}$ .

1. Itogi nauki i tekhniki. Ser. Radiacionnaya biologiya. Tom 10 VINITI ISSN 0202-7151, Moscow 1991.