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Application of the method of thermally activated tritium for labeling isoniazide.

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For labeling of pharmacological preparation of isoniazide we have used the method of labeling by thermally activated tritium. Isoniazide was labeled by thermally activated tritium in apparatus for tritium labeling. The influence of procedure of labeling on isoniazide has been investigated. During of labeling the change of color of isoniazide was observed that indicates partial destruction of isoniazide. The optimum regime of labeling was selected. The system of purification of tritium-labeled isoniazide by thin layer chromatography (TLC) has been developed. Tritium-labeled preparation of isoniazide was purified by TLC on silicagel in system ethyl acetate:isopropanol:liquid ammonia (concentrated):acetone (15:20:5:2). Application of TLC for purification of tritium labeled preparation allows to purify completely isoniazide from by-products. The output of purified tritium labeled preparation of isoniazide was 41.4%. The received preparation had specific radioactivity of 468.5 MBq/mmol, radiochemical purity of the preparation was 95 %.

TLC purification seems inexpensive and fast method, suitable for purification of tritium-labeled isoniazide. Thus, the used method allows to obtain tritium labeled preparation of isoniazide suitable for medical and biologic research. Received tritium-labeled preparation of isoniazide is supposed to be used in studies of binding capacity of blood transport proteins of patients with various pathological conditions.

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