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## Production of Medical Radionuclides in Russia: status and future

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Production of isotopes for medical diagnostics and therapy is located in several institutions based on big nuclear facilities all over Russia earlier used for weapon and fundamental research, in particular:

- Research Institute Atomic Reactors (Dimitrovgrad): nuclear reactors, hot cells;
- Karpov Institute of Physical Chemistry (Obninsk branch): nuclear reactor, hot cells;
- Institute for Physics and Power Engineering (Obninsk): hot cells;
- CYCLOTRON Co. (Obninsk): cyclotrons, hot cells;
- Production Association MAYAK (Ozersk): nuclear reactors, hot cells;
- Kurchatov Institute (Moscow): solution reactor, cyclotron, hot cells;
- Khlopin Radium Institute (S-Petersburg): cyclotron, hot cells;
- Institute for Nuclear Research (Troitsk): linear accelerator.

Most of isotopes are produced for export needs. Future growing of nuclear medicine in Russia is anticipated. New prospective developments are: production of fission  $^{99}\text{Mo}$  in Dimitrovgrad; production of  $^{82}\text{Sr}$ ,  $^{117\text{m}}\text{Sn}$  and  $^{225}\text{Ac}$  at INR together with IPPE providing basing on new effective target and radiochemical technology. Also very successful are developments of  $^{68}\text{Ge}/^{68}\text{Ga}$ -generator at CYCLOTRON Co. and  $^{82}\text{Sr}/^{82}\text{Rb}$ -generator at INR together with Central Research Institute of Roentgenology and Radiology (S-Petersburg) for PET-diagnostics.

This progress will provide supplying a big fracture of medical isotopes in the world market, especially if new ambitious projects will be approved. Collaboration with North American and European companies and laboratories plays an important role.

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