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# 11. Radiopharmacy.

## Article N° AJ20-19

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ALVP de Lima. et al. 67-Ga-gallium citrate production. Alasbimn Journal 5(20): April 2003

### 11.08 67-Ga-gallium citrate production.

The GA-67 citrate is one of the most important radioisotopes in nuclear medicine for detection of tumors and inflammatory processes. Recently studies showed its use as tracer labeled with peptides for therapy purpose. The G-67 citrate production is part of the nationalization program in the routine production of radiopharmaceutical implanted in Brazil and developed in the Radiopharmacy center. The radioisotope production is made by 68Zn(p,2n)67Ga reaction in cyclotron, model cyclone 30, using enriched in Zn-68 target electroplated with mass range 600-750 mg. The production of 67Ga is achieved by irradiating target with a current average of 200 mA/h. After irradiation the Zn-68 is dissolved in HCl 37% solution and percolated in a glass column contained type Dowex 50W-X8 resin conditionated with 10M HCl solution. Next step, the Ga-67-chloride is eluated with 3.5M HCl solution. This solution is evaporated and added 30% H2O2 and evaporated again. The Ga-67-citrate is recovered using a 3.8% sodium citrate solution. The product obtained is characterized by control of quality assay listed as follow: radiochemical, radionuclide and chemistry purity, sterility and pyrogen. The results of production showed that the activity obtained, nearly 1Ci, attends the national demand and quality of product is assured in accordance with international pharmacopeia. The product obtained is pyrogen free with radiochemical purity minimum found of 98%. The chemical contaminants (Fe, Ni, Cu and Zn) level is below the recommended by the international pharmacopeia.

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