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99-Mo- 99m-Tc GENERATOR - STUDY OF THEIR PERFORMANCE AND QUALITY

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In this work the performance of the 99-Mo- 99m-Tc generators produced at IPEN-CNEN/SP as well as the quality of the eluted solutions were analysed. The following parameters were studied: elution efficiency, chemical, radiochemical, radionuclidic and microbiological purities and pH of the eluates. The 99m-Tc yield ranged from 84.7 to 98.5%. The radioactivity due to the pertechnetate ion in the studied solutions was higher than 97.5%. The aluminium content in eluates, determined by spectrophotometry, was lower than 2,5 µg/ml and the pH of the solutions between 4.5 and 5.1. Radioactive impurities of the order of 10^{-3} KBq 99-Mo/MBq 99m-Tc and 10^{-5} KBq 131-I/MBq 99m-Tc were found in the eluates at the time of elution. Other gamma emitting radioactive impurities were of order of 10 KBq/MBq 99m-Tc. The eluates were sterile and pyrogen free. From the results obtained in this work one can state that the IPEN-TEC generator is a reliable source of good quality 99m-Tc-pertechnetate.

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