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Effect of mobile phase salinity on the Ac-227/Ra-223 generator.

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Radium-223 is the first approved alpha emitting radionuclide for use in radionuclide therapy [1]. Radium follows the Calcium metabolism and thus is self targeted to bones. Several generator systems were described in the past [2]. In this study we have focused on a generator system described by Guseva et al. [3], based on a Dowex-1 resin and a mixed methanol/ nitric acid mobile phase. The effect of NaCl addition into a mobile phase on Ac-227/Th-227/Ra-223 generator was studied. The aim of this study was to increase the efficiency of Ra-223 elution and improvement of the Ra-223 elution peak shape. Possible Th-227 breakthrough was also evaluated.

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References

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