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INFORMA

^{99m}Tc-TEDP: Nuevo fosfonato para estudio óseo

Synthesis and preclinical pharmacological evaluation of ^{99m}Tc-TEDP as a novel bone imaging agent

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The detection of bone metastasis in early stages requires the development of high-affinity bone imaging radiopharmaceuticals for the improvement of the diagnostic accuracy of routine bone scanning and effective management of these medical cases. This study aimed to provide a convenient synthesis of 1-thioethylidene-*l,l*-disodiumphosphonate (TEDP) and an improved preparation of its ^{99m}Tc-TEDP complex. The results showed that the radiochemical purity of ^{99m}Tc-TEDP was found to be $95 \pm 2\%$ and that its stability was up to 6 h. Biodistribution study showed high and long uptake of ^{99m}Tc-TEDP in bone starting from 15 min (39 ± 4 ID/g) to 3 h (53 ± 2.4 ID/g) showing high affinity of ^{99m}Tc-TEDP complex to bones. This research could introduce a novel radiopharmaceutical that could be used in scanning body bones starting from 15 min between injection of ^{99m}Tc-TEDP and bone imaging, minimizing the burden on patients in terms of the total length of the examination and the dose of radiation absorbed and showing high specificity and efficacy in bone scintigraphy.



Colabora con Farmacéuticos Mundi (**FarmaMundi**) (<http://www.farmaceuticosmundi.org/>)



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