

技术交流

# Na<sup>188</sup>ReO<sub>4</sub>溶液活度测量的标准化研究

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**摘要** 摘要: 治疗用放射性药品活度与其用药安全性和有效直接相关。为了确保含<sup>188</sup>Re放射性药品用药安全有效, 本工作利用Na<sup>188</sup>ReO<sub>4</sub>溶液, 对使用活度计测量Na<sup>188</sup>ReO<sub>4</sub>溶液活度的方法进行了标准化研究。利用4π液闪、4πβ-γ符合方法, 通过三家单位4套装置测量, 确定Na<sup>188</sup>ReO<sub>4</sub>溶液标准源的活度量值; 再利用已知活度的标准源, 对使用活度计测量Na<sup>188</sup>ReO<sub>4</sub>溶液活度的方法进行了标准化研究, 确定了测量条件; 最后在三个地区的10台不同活度计上进行了活度测量对比试验, 结果表明, 利用CRC系列活度计测量Na<sup>188</sup>ReO<sub>4</sub>溶液活度, 各测定值均在标准值的±3%以内。因此, 进行标准化标定后, 活度计适于测量Na<sup>188</sup>ReO<sub>4</sub>溶液的活度。

**关键词** [Na<sup>188</sup>ReO<sub>4</sub>溶液](#) [活度测量](#) [标准化](#)

分类号

## Study On the Standardization for the Radioactivity Measurement

**Abstract** Abstract: The safety and efficacy of the therapeutic radiopharmaceuticals directly depends on its dosage. In order to determine the radioactivity of <sup>188</sup>Re radiopharmaceuticals accurately with dose calibrators, and ensure the safety and efficacy of the <sup>188</sup>Re radiopharmaceuticals, the standardization for the radioactivity measurement of Sodium Perrhenate <sup>188</sup>Re Solution with dose calibrators has been studied, in which 4π liquid scintillator and 4πβ-γ coincidence method are used to determine the values of radioactivity for the Sodium Perrhenate <sup>188</sup>Re Solution standard source with four experimental set-ups in three laboratories, then the dose calibrators are calibrated with the standard source, and the effect of the type of dose calibrator, the container of the standard source, and the volume of the solution are studied systematically, at last the comparative test is carried out among 10 different dose calibrators in three cities. The results show that the values of CRC series dose calibrators are all in coincidence within ±3%. In conclusion, having been calibrated by standardization, the CRC series dose calibrators can be used to accurately determine the radioactivity of Sodium Perrhenate <sup>188</sup>Re Solution.

**Key words** [Key words: Na<sup>188</sup>ReO<sub>4</sub> solution](#) [radioactivity measurement](#) [standardization](#)

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