

Recent advances in ^{99m}Tc radiopharmaceuticals

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^{99m}Tc radiopharmaceuticals play an important role in widespread applications of nuclear medicine. When ^{99m}Tc radiopharmaceuticals first came into use, major efforts were directed toward the development of ^{99m}Tc radiopharmaceuticals for bone imaging and for the excretory functions of the liver and kidneys. In the past 20 years, a significant advance has been made in technetium chemistry, which provided ^{99m}Tc radiopharmaceuticals for assessment of regional cerebral and myocardial blood flow. Recent efforts have been directed toward the design of ^{99m}Tc -labeled compounds for estimating receptor or transporter functions. A number of bifunctional chelating agents that provide ^{99m}Tc labeled proteins and peptides of high *in vivo* stability with high radiochemical yields have also been developed. More recently, organometallic technetium and rhenium compounds have been introduced as another class of ^{99m}Tc radiopharmaceutical design. In this manuscript, recent progress in ^{99m}Tc radiopharmaceuticals is reviewed with the major emphasis laid on key innovations in this field to provide the ^{99m}Tc radiopharmaceuticals available today.

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