

عنوان مقاله:

An overview on Ga-68 radiopharmaceuticals for positron emission tomography applications

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خلاصه مقاله:

Gallium-68 a positron emitter radionuclide, with great impact on the nuclear medicine, has been widely used in positron emission tomography (PET) diagnosis of various malignancies in humans during more recent years especially in neuroendocrine tumors (NETs). The vast number of $^{68}\text{Ge}/^{68}\text{Ga}$ related generator productions, targeting molecule design (proteins, antibody fragments, affibodies, peptides and small molecules), as well as existing numerous human clinical trials at the registration, continuation and completion levels, are indicative of great importance and future impact of gallium-68 radiopharmaceuticals in human health. A concise review on the recent production and application of ^{68}Ga -tracers with the emphasis on the peptides, biomolecules and also small molecules available for clinical applications, clinical trials or preclinical studies are presented. The importance of Ga-68 radionuclide as a theranostic radionuclide with potential coupling application with therapeutic radioisotopes (such as ^{90}Y and ^{177}Lu) is increasing appreciated. This review describes the present status of availability, application and future horizons on the development of ^{68}Ga -radiopharmaceuticals worldwide.

کلمات کلیدی:

^{68}Ga , PET, Theranostics, Radiopharmaceuticals

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