

A review on ^{177}Lu -labeled compounds and biomolecules for medical purposes

Muhammad Bilal Butt

University of Gujarat, Pakistan



Abstract

The localization and therapeutic efficiencies of radiolabeled compounds showed limited consequence for various infections including cancerous cells. The localization of cancer cells in living system by biomolecules incorporated with β -emitter radioisotope ^{177}Lu ($E_{\text{max}}=0.497\text{MeV}$) owning the half-life of 6.639 days proved as an efficient agent for radioimmunotherapy, bone pain palliation and targeted radiotherapy. ^{177}Lu is found to be an effective therapeutic radionuclide due to its distinctive nuclear decay properties. Preparation of ^{177}Lu -labeled biomolecules with high percentage radiolabeling yield may only be possible by carefully optimizing different reaction parameters including amount of ligand, pH, buffer used, incubation period, reducing agent and reaction period. In this review, specific parameters for the preparation of ^{177}Lu -labeled antibodies, peptides and miscellaneous compounds along with selective therapeutic applications are described.



Biography:

Muhammad Bilal from Punjab Pakistan. I have recently completed my Master of philosophy Chemistry degree with distinguished research in the field of oncology. I have published a review article named "A review on ^{90}Y -labeled compounds and Biomolecules" in journal of radio analytical and nuclear chemistry". Another two research papers and two review articles are in pipeline for publication purpose. Right now I am working as Senior Science teacher of Chemistry in a Government High School.

Speaker Publications:

1. A review on ^{90}Y -labeled compounds and Biomolecules

[3rd Edition of EuroSciCon Conference on Chemistry, Rome, Italy - August 17-18, 2020.](#)

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