







Special Issue Reprint

Therapeutic Radionuclides in Nuclear Medicine

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Dear Colleagues,

Recently, the theranostic principle has been used with tumor receptor-specific radiopharmaceuticals containing therapeutic nuclides, such as 161 Tb, 177 Lu, 188 Re, 212 Pb, and 225 Ac. The production mode, availability, and costs of radionuclides have a significant impact on their clinical use and are often bottlenecks for broader applications. Therefore, cyclotron-produced neutrons could open a new era for producing relevant radionuclides.

The identification of tumor-specific binding sites, the development of tumor-addressing conjugates, opportunities for enhanced target enrichment, and the protection of critical organs define the potential of therapeutic radiopharmaceuticals. The combination of radiotherapeutics with other pharmaceuticals to modulate the target or repair systems exploits synergistic effects. Combining radiotherapeutics with the body's immune system or immunotherapeutics raises hopes for immunization against cancer and could explain the success of targeted alpha therapy vs. targeted beta therapy.

This reprint is dedicated to nuclear oncologists, health physicists, radiopharmacists, radiochemists, radiobiologists, and all other oncologists. We thank all our colleagues and would like to express our respect for their contributions to this reprint.



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