Notes

*1: Compared with other radiations, it is more biologically effective and has a shorter range. TAT is expected to become an effective treatment that intensively attacks cancer by forcefully destroying target cancer cells, while minimizing effects on healthy tissue because of its weak penetration ability.

*2: Gigabecquerel. A unit for measuring radioactivity. *The article listed below (*6) reported that each patient had received 0.1 megabecquerel of Ac-225 as a compound per kg of body mass four times.

*3: A production facility established in 2019 with an investment of 3.3 billion yen to promote research and development of Theranostics

*4: Based on the research conducted by NMP in March 2022.

*5: The term “Theranostics” is a portmanteau, combining therapy (therapeutics) and diagnosis (diagnostics). It signifies a concept that applies to therapies that convert radionuclides into therapeutic nuclides, following prevalidation with diagnoses to determine whether the drug can reach the target protein or not. Theranostics can connect therapies and diagnoses more closely, hopefully contributing to the realization of personalized medicine and effective utilization of medical expenses.

*6: C. Kratochwil et al., J Nucl Med. 2016, vol.57, p1941-1944.

*7: A manufacturing process utilizing the nuclear reaction by which two neutrons are released because of collision of the proton beam accelerated by the accelerator with radium-226 atoms and converted to Ac-225 atoms

*8: CiCLE is one of the projects facilitated by AMED, aiming at utilizing government investment and supporting/arranging environment for research and development conducted with collaboration among industry, academia, and government, to develop innovative pharmaceutical products/medical devices (quoted from the AMED website).

*9: “Development of Antibody Labeling Therapies (with Alpha-Ray) and Companion Diagnostics, in Parallel with Maintenance of Drug Production Facilities to Embody the Concept of Theranostics.”