

THERANOSTICS INSIGHTS

¹⁷⁷Lu-PSMA I&T



Radioisotope

Lu-177, lutetium-177
Transition metals
T_{1/2} : 6.71 days

Production

In nuclear reactor:
Direct: ¹⁷⁷Lu (n, γ) ¹⁷⁷Lu nca
Indirect: ¹⁷⁶Yb (n, γ) ¹⁷⁷Yb
(β-) ¹⁷⁷Lu ca

Radiation

Beta particles (β-)
Gamma photons (γ)

Use

In study for the treatment of metastatic castration-resistant prostate cancer (mCRPC).

Target/Mechanism

¹⁷⁷Lu-PSMA binds to the receptor PSMA and is internalized by the cell. The β- radiation emitted by Lu-177 damages the DNA and kills cancer and metastasis cells.

Insight

The SPLASH Trial (NCT04647526) is testing ¹⁷⁷Lu-PNT2002 (¹⁷⁷Lu-PSMA I&T) against the current standard treatment (either abiraterone or enzalutamide) before chemotherapy.

The purpose of this study is to evaluate the efficacy and safety of ¹⁷⁷Lu-PNT2002 in patients with metastatic castration-resistant prostate cancer who have progressed following treatment with androgen receptor axis-targeted therapy (ARAT).

The study consists of 3 phases: Dosimetry, Randomized Treatment, and Long-term Follow-up.

Part 1: 25 patient safety and dosimetry

Part 2: 390 patient randomization:

Arm A - ¹⁷⁷Lu-PSMA | **Arm B** - enzalutamide or abiraterone

Patients in Arm B who experience radiographic progression may crossover to receive ¹⁷⁷Lu-PSMA

Part 3: All patients will be followed in long-term follow-up for at least 5 years from the first therapeutic dose, death, or loss to follow up.

PATIENT JOURNEY

