THERANOSTICS INSIGHTS

^{177}Lu-MNPR-101-PCTA

Oncidium foundation

Radioisotope

Lu-177, lutetium-177
Transition metals
T ½ : 6.71 days

Production

In nuclear reactor:
^{176}Yb (n, γ) ^{177}Yb(β-)^{177}Lu

Radiation

Beta particles (β-)
Gamma photons (γ)

Use

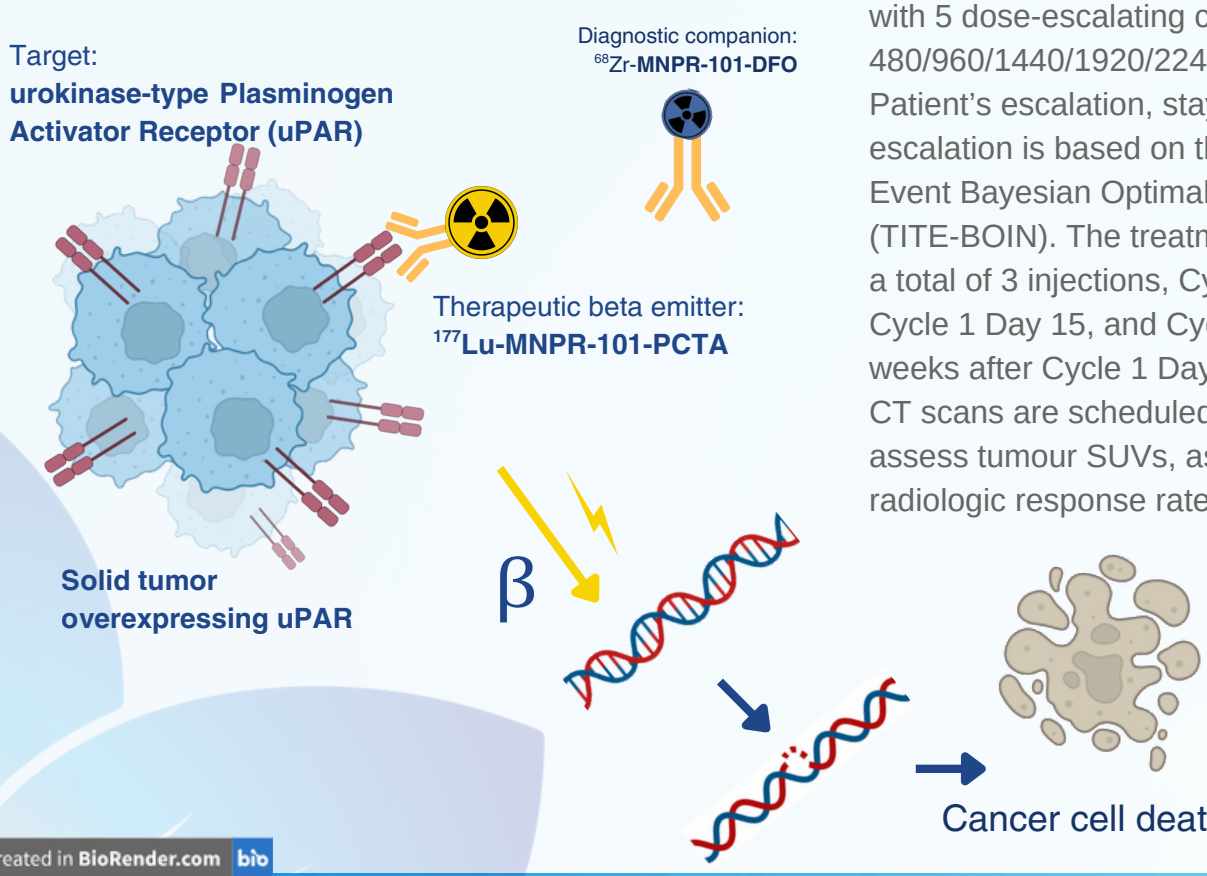
In clinical trial (and in Expanded Access Program in the US) for solid tumours overexpressing the urokinase-type Plasminogen Activator Receptor (uPAR), including bladder/urothelial, triple-negative breast, lung, colorectal, gastric, ovarian, and pancreatic cancers.

Target/Mechanism

The humanized monoclonal antibody MNPR-101-PCTA binds to the uPAR with high selectivity. When radio conjugated as ^{177}Lu- MNPR-101-PCTA it delivers ionizing radiations close to the nucleus for single-strand DNA breakage, and cancer cell death.

Insight

This phase I clinical trial, NCT06617169, is looking primarily into safety and tolerability of ^{177}Lu-MNPR-101-PCTA in patients with solid tumour, selected by positivity to imaging agent ^{89}Zr-MNPR-101-DFO. Preliminary efficacy signals are collected as secondary outcomes. Enrolment expectation: 12 patients.



Study design: Dose escalation study with 5 dose-escalating cohorts (^{177}Lu 480/960/1440/1920/2240 MBq). Patient's escalation, stay, or de-escalation is based on the Time-to-Event Bayesian Optimal Interval Design (TITE-BOIN). The treatment consists of a total of 3 injections, Cycle 1 Day 1, Cycle 1 Day 15, and Cycle 2 Day 1 (12 weeks after Cycle 1 Day 1). SPECT and CT scans are scheduled throughout to assess tumour SUVs, as well as the radiologic response rate by RECIST 1.1.