THERANOSTICS INSIGHTS

^{177}Lu-girentuximab

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 trials (phase II) as combination treatment for clear cell renal cell carcinoma (ccRCC).

Target/Mechanism

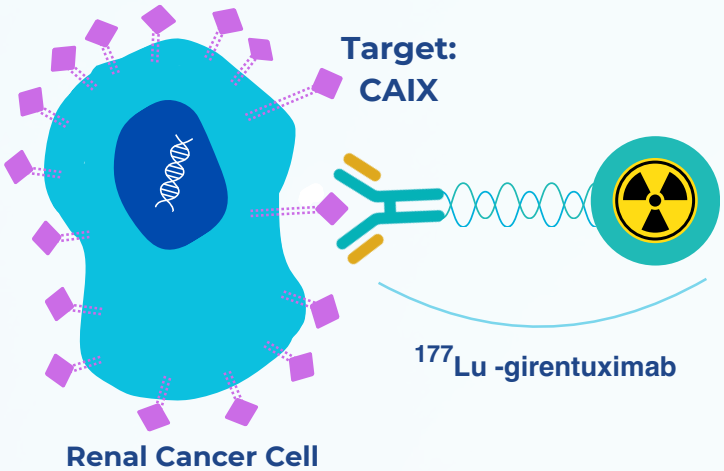
Girentuximab is a monoclonal antibody, specifically binding to the carbonic anhydrase IX (CAIX) antigen highly expressed in 94% of the ccRCC cases, and otherwise not present in normal tissue. Upon administration,^{177}Lu-girentuximab selectively binds to cancer cells expressing CAIX. Once bound to the cancer's surface, it's internalized, allowing the beta radiation emitted by ^{177}Lu to damages the DNA of cancer cells, inducing cell death and inhibiting tumor growth.

Insight

Phase II clinical trial (NCT05239533), is investigating safety and efficacy of ^{177}Lu-girentuximab in patients with advanced ccRCC in combination with Nivolumab, an immune checkpoint inhibitor that binds to PD-L1. Prior to administration, the imaging is performed using ^{89}Zr-girentuximab.

PART1: Patients are enrolled to evaluate what is the maximum tolerated doses (MTD) of ^{177}Lu-girentuximab in combination with standard-dose Nivolumab. If at least 1 patient responds to the treatment, the trial is extended to part 2.

PART2: Efficacy of the combination at the MTD of ^{177}Lu-girentuximab in patients with advanced ccRCC as assessed by best Overall Response Rate/ORR by 24 (+/- 2) weeks by Response Evaluation Criteria In Solid Tumors (RECIST v1.1).



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