

Combination therapy for bladder cancer

Invention

The inventors have shown that a monotherapy using small molecule TrkA inhibitors improves survival of bladder cancer-bearing mice. The characteristic immunotherapy resistance of bladder cancer sustained by different immune cells, including type-2 innate lymphoid cells (ILC2s) is also bypassed by the treatment and sensitizes the tumor to immune checkpoint inhibition using antibodies. The resulting synergistic effect results in an *in vivo* survival advantage in bladder cancer bearing animals, compared to either monotherapy. The MoA does not rely on the presence of NTRK gene fusion in the tumor but on the expression of (non-fused) TrkA on tumor-promoting ILC2s. In principle, any cancer displaying large amounts of ILC2 could be tractable through this approach.

Features & Benefits

- TrkA inhibitors are currently only approved for cancers with NTRK gene fusion. The newly discovered MOA could allow the use of these compounds in many more cancers.
- Checkpoint inhibitors lack efficacy in many types of cancer. Sensitization through TrkA inhibitors may allow to expand their use to additional cancers.
- Cancers tractable through this approach could be easily identified by the presence of ILC2 in the tumor.
- Both TrkA inhibitors and immune checkpoint inhibitors are already approved for use in humans, thus the regulatory pathway would be considerably shortened.

Intellectual Property

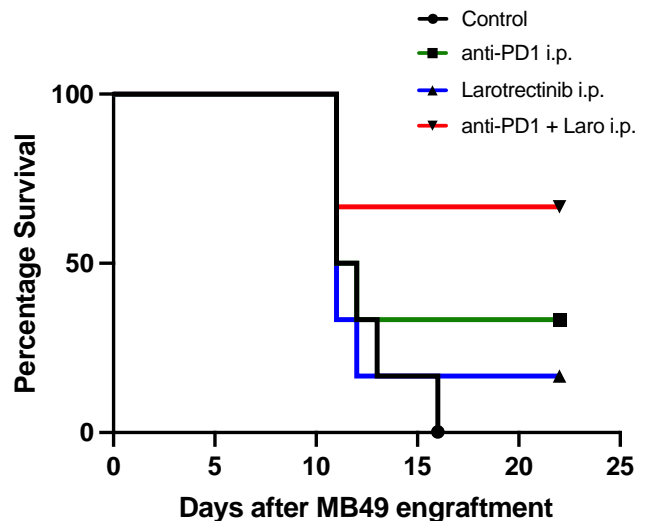
Patent: Compositions and Methods for the treatment and/or prevention of an ILC2 rich cancer
Number: EP24158078.6

Earliest priority date: 18.02.2024

Technology Readiness Level

In vivo proof of concept of combination therapy in mice. Proven safety in humans. Several TrkA and immune check point inhibitors are FDA approved.

Key data



Applications

Proof-of-concept in an *in vivo* mouse model:

- bladder cancer

Strong rationale and preliminary data:

- colorectal cancer, gastric cancer

Plausible based on literature:

- chronic myelogenous leukemia; prostate cancer; hepatocellular cancer; pancreatic ductal adenocarcinoma: cholangiocarcinoma; lung adenocarcinoma

Partnership sought

Exclusive or non-exclusive licensing to industrial partners able to develop and commercialize the technology.

Contact & Inquiries

Scientific Inquiries

Pr. Camilla Jandus

Tel: +41 22 379 54 40

Camilla.Jandus@unige.ch

Licensing Inquiries

Dr. Raluca Flükiger, PhD, CLP

Tel : +41 22 379 03 53

Raluca.Flukiger@unige.ch

