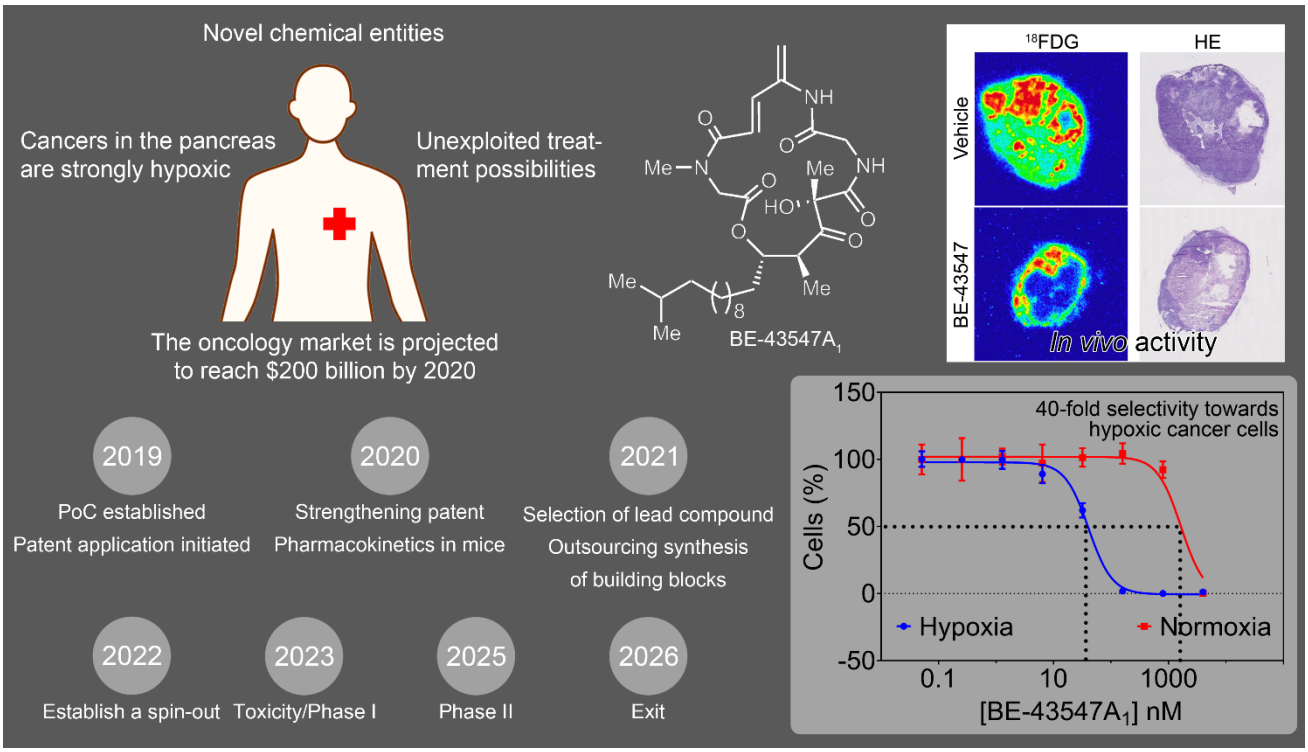
A novel treatment of hypoxic cancer

BioTech & Pharma

We kill chemo- and radioresistant cancer cells



Technology Description

Generally, solid tumors contain areas in which the oxygen supply is insufficient – this phenomenon is known as hypoxia. These subgroups of cells are known to drive both metastasis as well as the occurrence of resistance towards radiation and chemotherapy. To this date, two hypoxia-selective drug candidates has been tested in phase III clinical trials.

The compounds, TH-302 and tirapazamine, are activated under hypoxia and lead to DNA damage. These compounds were well tolerated in humans but failed in part due to large variations in selectivity and potency between patients.

We have developed simplified analogs of hypoxia-selective natural products that display increased potency and selectivity towards hypoxic cancer cells. This natural product-inspired compound class presents itself with a mechanism that is distinct from TH-302 and tirapazamine and has robust potencies and selectivity across all tested cell lines. We are still exploring the mechanistic underpinnings to this bioactivity.

Intellectual Property Rights
Priority application filed December 2019.

Team


Associate professor
Thomas B. Poulsen
Scientific Consultant


Assistant Professor
Thomas Tørring
Scientific Consultant


Postcoc
Kristian M. Jacobsen
Cell Biologist


Postdoc
Per Hjerrild
Chemist


Currently seeking additional team member that can help us strengthen the commercial potential of our invention and build a solid business case.

Current State

Currently, we have a broad suite of promising *in vitro* data as well as early *in vivo* data on the natural products. Furthermore, we have access to multiple synthetic analogs of the natural products. We possess new chemical entities and world leading experience with this class of natural products.

During the priority year, we aim at selecting the most promising analogs for initial pharmacokinetics in mice.

Call to action

We seek investors to help generate proof of concept in the pre-clinical stage. We wish to empower our R&D efforts on both the synthetic and the biological investigations *in vitro* and *in vivo*. Practically, this involves outsourcing the synthesis of building blocks and financing strong pharmacokinetic studies of selected analogs.

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