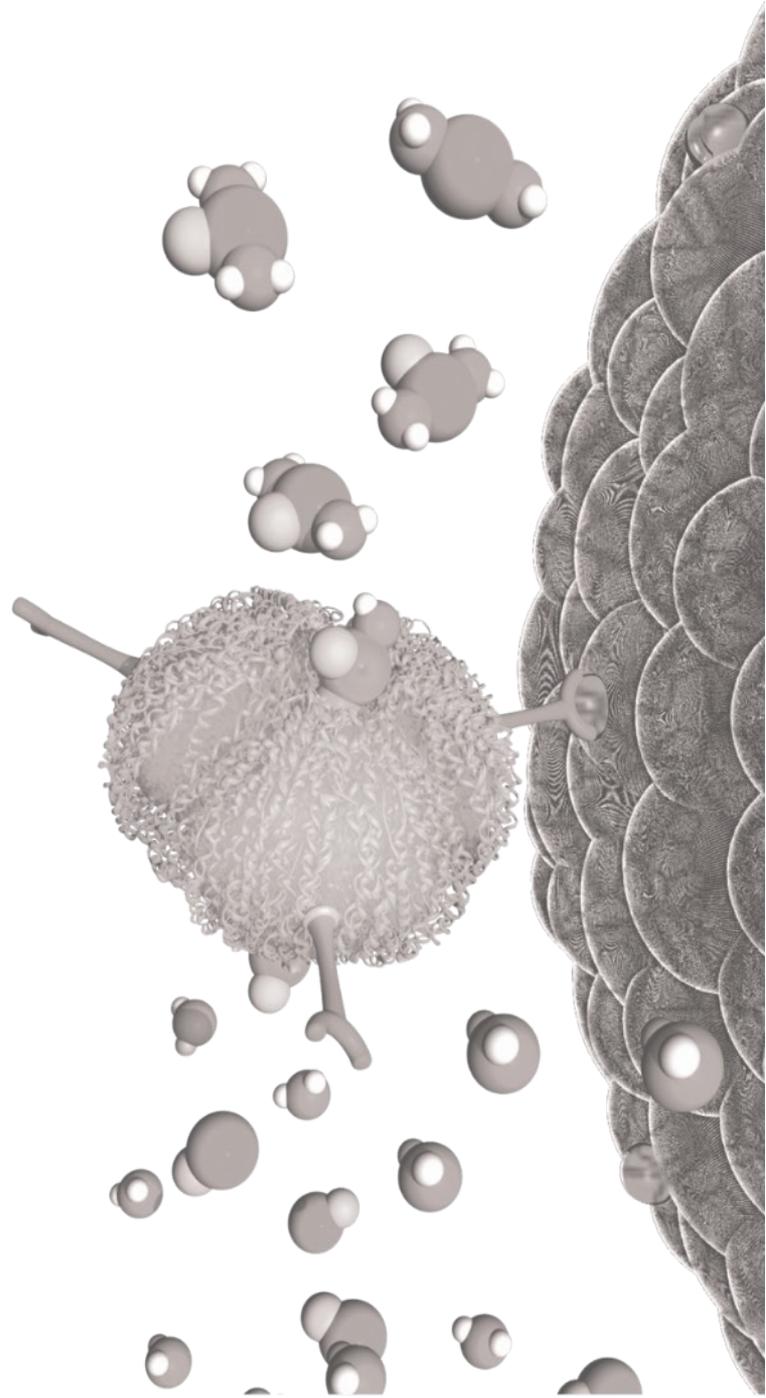




**HELIX**BIOPHARMA

SNN Network Virtual Conference  
August 3, 2020





# Cautionary Note Regarding Forward Looking Statements

This presentation document contains certain forward-looking statements and information (collectively, “forward-looking statements”) within the meaning of applicable securities laws.

Forward-looking information includes, without limitation, statements concerning (i) the Company’s ability to continue to operate on a going concern basis being dependent mainly on obtaining additional financing; (ii) the Company’s growth and future prospects being dependent mainly on the success of L-DOS47; (iii) the Company’s priority continuing to be L-DOS47; (iv) the Company’s development programs, including but not limited to, extension of the current drug candidate(s) to other indications and the identification and development of further tumour-targeting antibodies for DOS47; (v) the nature, design and anticipated timeline for completion of enrollment and other matters relating to the Company’s ongoing clinical study programs such as the LDOS003 study combining L-DOS47 with Vinorelbine/Cisplatin (“VIN/CIS”) for advanced stage lung cancer patients and the recently approved Investigational New Drug (“IND”) Phase Ib/II combination study combination with doxorubicin for previously treated advanced pancreatic cancer patients by U.S Food and Drug Administration (“FDA”); (vi) seeking strategic partner support and therapeutic market opportunities; (vii) the Company’s advancement in the area of cell based therapy via its subsidiary Helix Immuno-Oncology S.A. (“HIO”) (viii) future expenditures, insufficiency of the Company’s current cash resources and the need for financing and the Company’s possible response for such matters; (ix) future financing requirements, the seeking of additional funding (including the possible receipt of grants) and anticipated future operating losses; (x) changes in the application of accounting standards and interpretations; and (xi) industry performance, competition (including potential developments relating to immunotherapies and the Company’s possible response to such developments), prospects, and general prevailing business and economic conditions. Forward-looking information can further be identified by the use of forward-looking terminology such as “expects”, “plans”, “designed to”, “potential”, “believe”, “intended”, “continues”, “opportunities”, “anticipated”, “2020”, “2021”, “2022”, “next”, “ongoing”, “seek”, “objective”, “estimate”, “future”, or the negative thereof or any other variations thereon or comparable terminology referring to future events or results, or that events or conditions “will”, “may”, “could”, “would”, or “should” occur or be achieved, or comparable terminology referring to future events or results.

Forward-looking information includes statements about the future and are inherently uncertain and are necessarily based upon a number of estimates and assumptions that are also uncertain. Although the Company believes that the expectations reflected in such forward-looking information are reasonable, such statements involve risks and uncertainties, and undue reliance should not be placed on such statements. Forward-looking information, including financial outlooks, are intended to provide information about management’s current plans and expectations regarding future operations, including without limitation, future financing requirements, and may not be appropriate for other purposes. The Company’s actual results could differ materially from those anticipated in the forward-looking information contained in this presentation.

Forward-looking statements and information are based on the beliefs, assumptions and expectations of Helix’s management on the date of this presentation, and are presented solely to acquire a better understanding of Helix and may not be appropriate for other purposes nor should this presentation be redistributed to other parties. Helix does not assume any obligation to update any forward-looking statement or information should those beliefs, assumptions or expectations, or other circumstances change, except as required by law.

Those risks and uncertainties affecting Helix as more fully described in Helix’s most recent Annual Information Form, including under the headings “Forward-Looking Statements” and “Risk Factors”, filed under Helix’s profile on SEDAR at [www.sedar.com](http://www.sedar.com) (together, the “Helix Risk Factors”).



# Overview

## Head office

Richmond Hill, Ontario, Canada

## Product Development

Clinical-stage biopharmaceutical company focused on cancer drug development through immuno-oncology.

**DOS47** is a patented platform technology to treat cancer by altering the tumor microenvironment.

Helix's lead clinical drug candidate, **L-DOS47**, is currently being developed for the treatment of lung and pancreatic cancer.

The company's second candidate, **V-DOS47**, is in preclinical development for the potential treatment of breast cancer.

## Capitalization & stock information

Listed on the TSX: HBP

Common shares outstanding = 133 million

Warrants outstanding = 65 million

Market cap = CAD\$72 million

Share price = CAD\$0.54 (July 30, 2020)

Target: CAD\$2.50 Outperform (Noble Capital Markets)

CAD\$2.00 (Zacks Small Cap Research)

Cash position: CAD\$3.3 million

No debt, clean capital structure



## Leadership



**Heman Chao PhD**  
**CEO and Director**

Biochemist with expertise in protein drug development. Previous role with Sensium Technologies Inc.



**Frank Michalargias CPA, CA**  
**CFO**

Public company CFO with broad industry experience including senior positions with Unilever and Huhtamaki Oy



**Sławomir Majewski MD, PhD**  
**Board Chair**

Vice Rector of the Medical University of Warsaw, Corresponding Member of the Polish Academy of Science



**Artur Gabor**  
**Aduit Committee Chair**

Founder Gabor & Gabor Supervisory Board Chairman – Sfinks Polska S.A. and Grupa LEW S.A



**Ireneusz Fafara**  
**Director**

Over 30 years of experience in financial and industrial sector. Former General Director of the Supervisory Board of ORLEN Lietuva



**Dr. Kazimierz Roszkowski-Sliz**  
**Scientific Board**

Director and Head of Clinical of the National Tuberculosis and Lung Diseases Research Institute in Poland



**Dr. Robert Gillies**  
**Scientific Board**

Chair of the Department of Cancer Physiology and Vice-Chair (Research) of the Department of Radiology, H. Lee Moffitt Cancer Center and Research Institute;



# Lung and Pancreatic Cancer

## 2020 New Cases Estimates USA\*

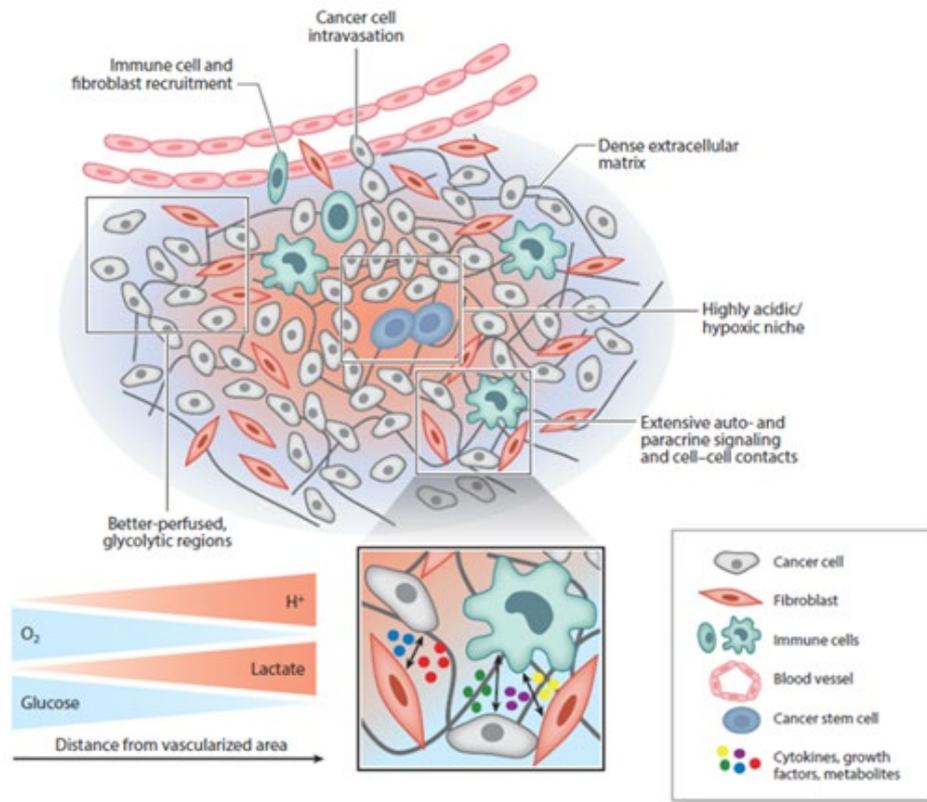
Lung and Bronchus	228,820
Pancreas	57,600

## 2020 Death Estimates USA\*

Lung and Bronchus	135,720
Pancreas	47,050



# Unique Technology Targeting Tumor Microenvironment



Boedtker and Pedersen (2020) Annual Rev Physiol. 82. 103

1. Helix's technology is designed to reduce tumor acidity, an escape mechanism which cancer cells utilize to evade the anti-tumor immune response. Tumor acidity has been shown to correlate with resistance to anti-cancer treatment and poor prognosis for cancer patients.
2. L-DOS47 may improve uptake of weak-base chemotherapeutics
3. L-DOS47 may reduce PD-1 and PD-L1 expression thereby improving immune response
4. Novel mechanism of action that is synergistic with other therapies
5. Favorable drug safety profile
6. Worldwide rights to intellectual property
7. Pursuing multiple indications



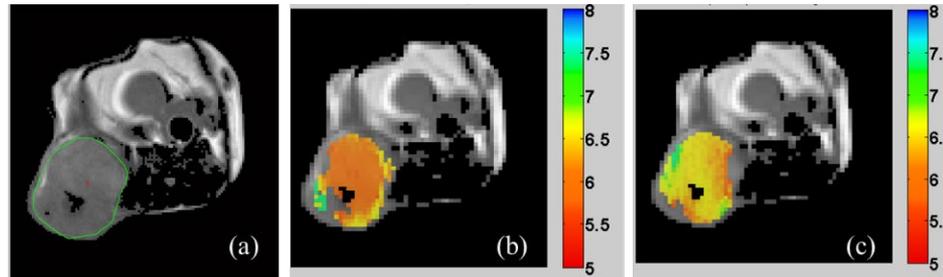
# Diverse Product Development Pipeline



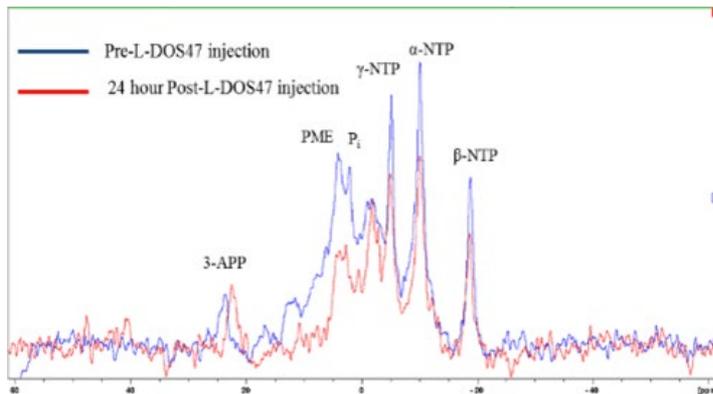
- 1: Phase II stage 1 completed, not advancing as monotherapy.
- 2: Approved directly for Phase II without the need to conduct Phase I.
- 3: Considering filing for IND 2020
- 4. First patient enrolled December 2019

Clinical Development in both lung and Pancreatic cancer

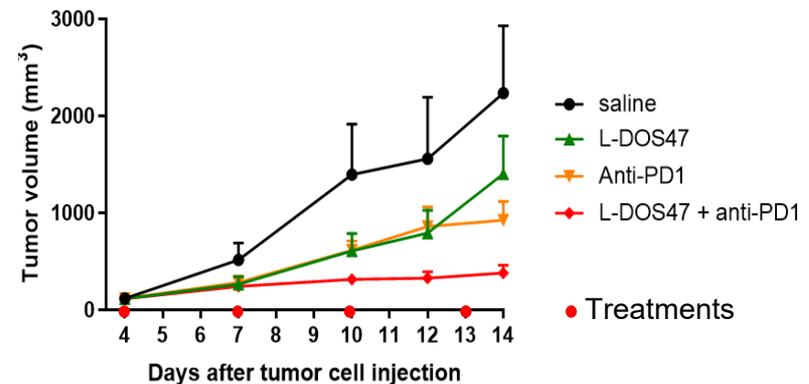
# L-DOS47 Changes Tumor pH and Impacts Tumor Growth



CEST MRI of iopamidol for pH imaging [1] of a Panc02 clone 38 SC tumor. (a) T2 weighted image, (b) CEST MRI before L-DOS47 injection, (c) ~30 minutes after 90 µg/ kg L-DOS47 injection. The difference in mean pHs is 0.38 units. L-DOS47 was administered iv. Iopamidol was administered SC, next to the tumor.



pH determination of a BxPC3 SC pancreatic tumor by <sup>31</sup>P magnetic resonance spectroscopy of (3-APP) [2] with an 8 mm Doty surface coil. Mice were injected with 90 µg/kg L-DOS47/ 200 µl saline iv and pHs were checked before and 24 h after treatment by injecting 350 µl of 3-APP ip prior to imaging. 24 hours after injection of L-DOS47, the pH of the tumor had increased by 0.55 units.

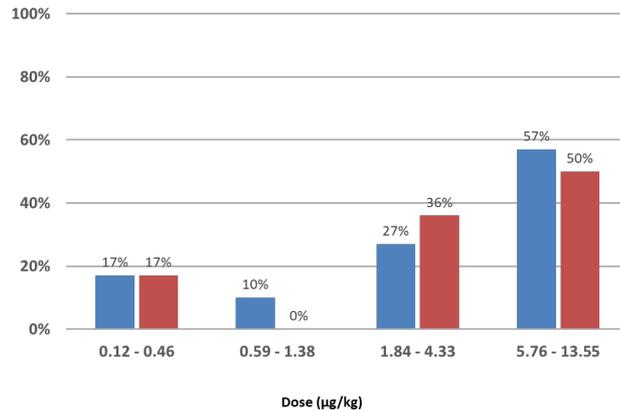


C57BL/6 mice (5 mice/group) were injected with CEACAM6-Panc02 cells subcutaneously in the right flank. Treatments started 4 days after tumor inoculation and all mice were sacrificed on day 15, after receiving 4 doses of drug(s). The combination of L-DOS47 and an anti-PD1 antibody controlled tumor growth.



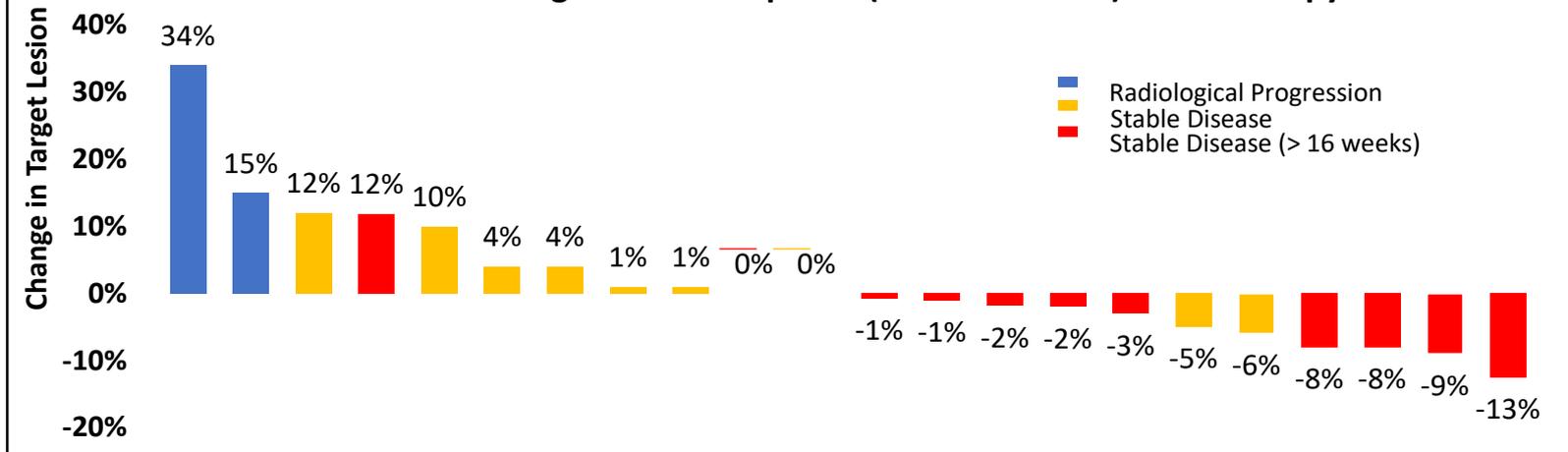
# LDOS002 Monotherapy in Lung Cancer

### Dose Response



- Exposure response trend observed over the 16 dose levels studied;
- Fewer patients with radiological progression following Cohort 8 (1.38 µg/kg);
- At doses between 5.76 to 13.55µg/kg, 53% of patients in the response evaluable population were progression free greater than 16 weeks.

### Waterfall Plot: Target Lesion Response (Cohorts 9 to 16) Monotherapy





## ASCO 2020 LDOS001 Combination Chemo)

- Phase I dose escalation clinical trial on the use of L-DOS47 in combination with pemetrexed and carboplatin, for the treatment of a type of lung cancer
- Patient selection defined as: Stage IIIb / IV, metastatic, and chemo-naïve patients.
- For Phase I, patients are to be dosed in four cycles of combination treatment (L-DOS47 + P/C).
- Patients who have not progressed following the four cycles of combination treatment and who have not experienced unacceptable toxicity can have the option to receive weekly L-DOS47.

Best Overall Response	L-DOS47 (All Dosing Cohorts) + Pemetrexed/Carboplatin
	Overall
Number of Patients <sup>1</sup>	12
Complete Response (CR)	0 (0%)
Partial Response (PR)	5 (41.7%)
Stable Disease (SD)	4 (33.3%)
Progressive Disease (PD)	3 (25.0%)

<sup>1</sup>Number of patients used as denominator to calculate percentages.

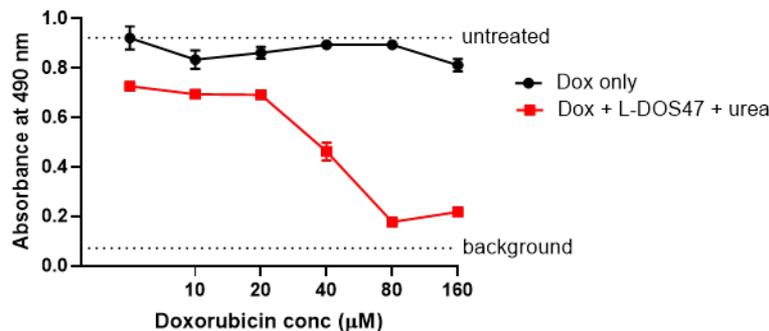
Of the twelve patients evaluable for efficacy, 5 patients (42%) had a partial response to treatment, 4 patients (33%) showed stable disease and three patients (25%) had progressive disease. In the trial, the objective response rate was 42% and the overall clinical benefit rate was 75%.



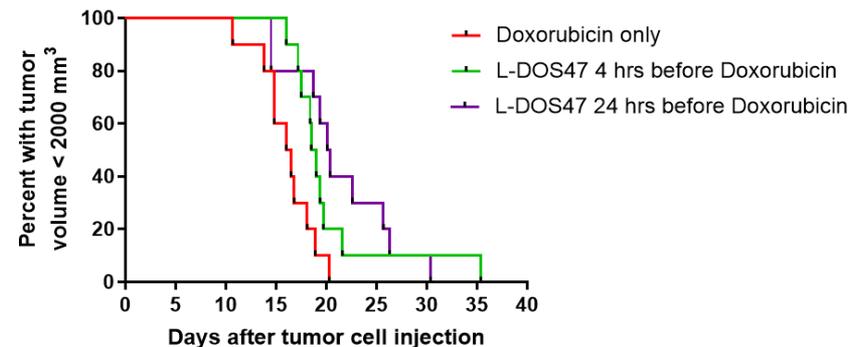
# LDOS006 Pancreatic Study

- Phase I/II open labelled study in patients with histologically proven metastatic pancreatic cancer who have progressed on at least 2 prior regimens
- <20 patients are expected for this study
- IND approved August 2019
- Enrollment began in December 2019
- LDOS006 ClinicalTrials.gov Identifier: NCT04203641

## Preclinical Support



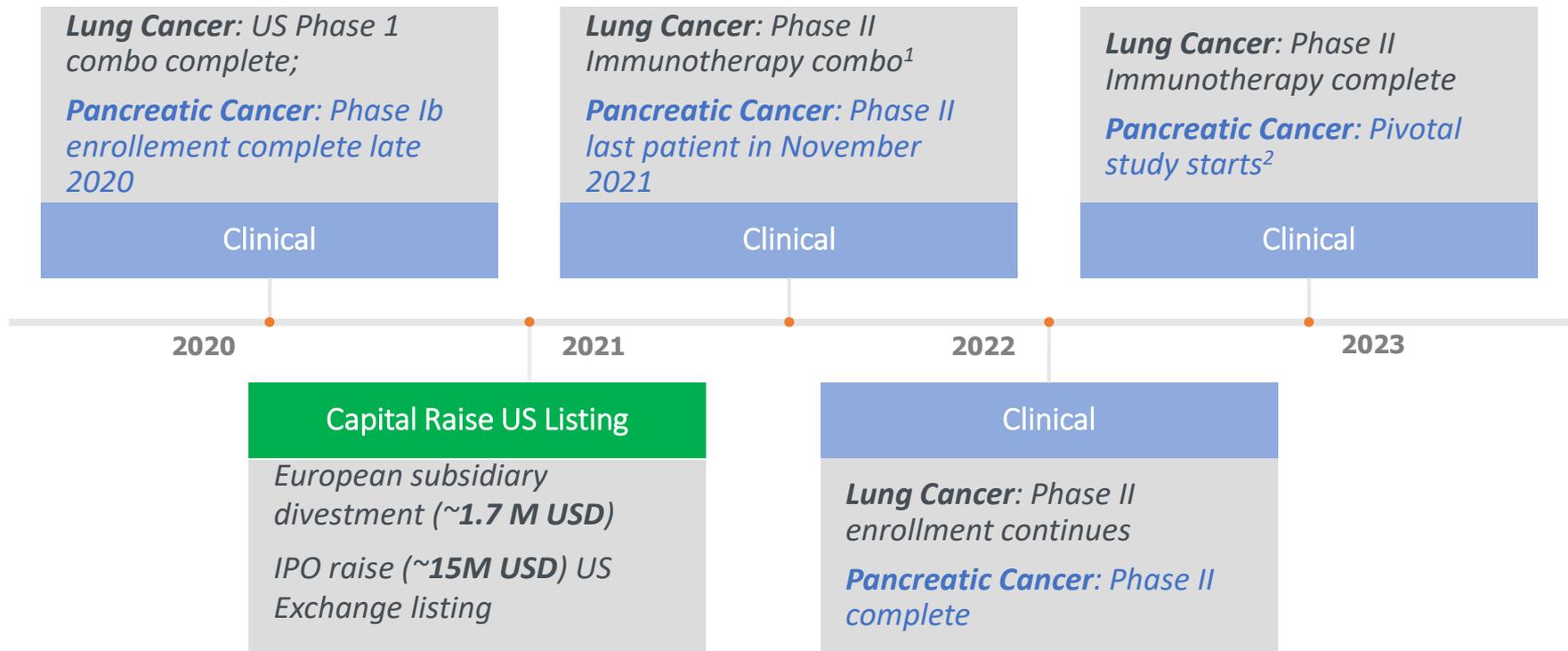
Viability of A549 cells that were initially incubated for 2 hours with L-DOS47, washed, and then combined with urea and Doxorubicin. **L-DOS47 increases Doxorubicin activity.**



C57BL/6 mice (10 mice/group) were injected with CEACAM6-Panc02 cells subcutaneously in the right flank. Doxorubicin treatments occurred on days 5, 8, 12 and 15, with L-DOS47 treatments either 4 or 24 hours before doxorubicin treatments. **Addition of L-DOS47 to doxorubicin treatments slowed tumor growth.**



# Milestones and Capital Requirements



<sup>1</sup> subject to preclinical data support, financial constraints and possible third-party collaboration

<sup>2</sup> subject to favorable Phase I/II results and finance constraints



## Executive Summary

- Helix develops novel anti-cancer therapies stemming from its proprietary technology platforms
- L-DOS47 is an unique tumour microenvironment immuno-conjugate drug
- L-DOS47 is in clinical development for both lung and pancreatic cancer
- Phase I / II clinical milestones expected in 2H 2020 - 2021
- Helix is targeting an up-list to the Nasdaq in late 2020

