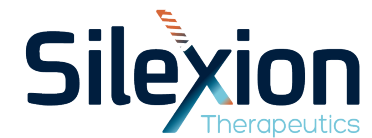


Silencing Oncogenes at the Level of Gene Expression

Corporate Presentation March, 2025

Nasdaq: SLXN



Forward-Looking Statement

The statements contained in this presentation that are not purely historical are forward-looking statements. Our forward-looking statements include, but are not limited to, statements regarding our or our management team's expectations, hopes, beliefs, intentions or strategies regarding the future. In addition, any statements that refer to projections, forecasts or other characterizations of future events or circumstances, including any underlying assumptions, are forward-looking statements. The words "anticipate," "believe," "continue," "could," "estimate," "expect," "intends," "may," "might," "plan," "possible," "potential," "predict," "project," "should," "would" and similar expressions may identify forward-looking statements, but the absence of these words does not mean that a statement is not forward-looking. Forward-looking statements in this presentation may include, for example, statements about:

- the future performance of the Company, including Silexion's projected timeline for regulatory approvals of its product candidates; and
- the Company's future plans and opportunities.

The forward-looking statements contained in this presentation are based on our current expectations and beliefs concerning future developments and their potential effects on us. There can be no assurance that future developments affecting us will be those that we have anticipated. These forward-looking statements involve a number of risks, uncertainties (some of which are beyond our control) or other assumptions that may cause actual results or performance to be materially different from those expressed or implied by these forward-looking statements. These risks and uncertainties include, but are not limited to, the items in the following list:

- Silexion is a development-stage company and has a limited operating history on which to assess its business;
- Silexion has never generated any revenue from product sales and may never be profitable;
- The approach Silexion is taking to discover and develop novel RNAi therapeutics is unproven for oncology and may never lead to marketable products;
- Silexion does not have experience producing its product candidates at commercial levels, currently has no marketing and sales organization, has an uncertain market receptiveness to its product candidates, and is uncertain as to whether there will be insurance coverage and reimbursement for its potential products;
- Silexion may be unable to attract, develop and/or retain its key personnel or additional employees required for its development and future success;
- Additional factors relating to the business, operations and financial performance of Silexion.

Should one or more of these risks or uncertainties materialize, or should any of our assumptions prove incorrect, actual results may vary in material respects from those projected in these forward-looking statements. We undertake no obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as may be required under applicable securities laws.

Company Overview

Clinical-stage company developing proprietary treatments for KRAS-driven cancers

KRAS-Focused RNA Interference Platform

Silexion's siRNA platform technology is designed to silence oncogenes and prevent the production of the mutated KRAS proteins that drive cancer growth

Promising Clinical Data in Locally Advanced Pancreatic Cancer and preclinical results for optimized product

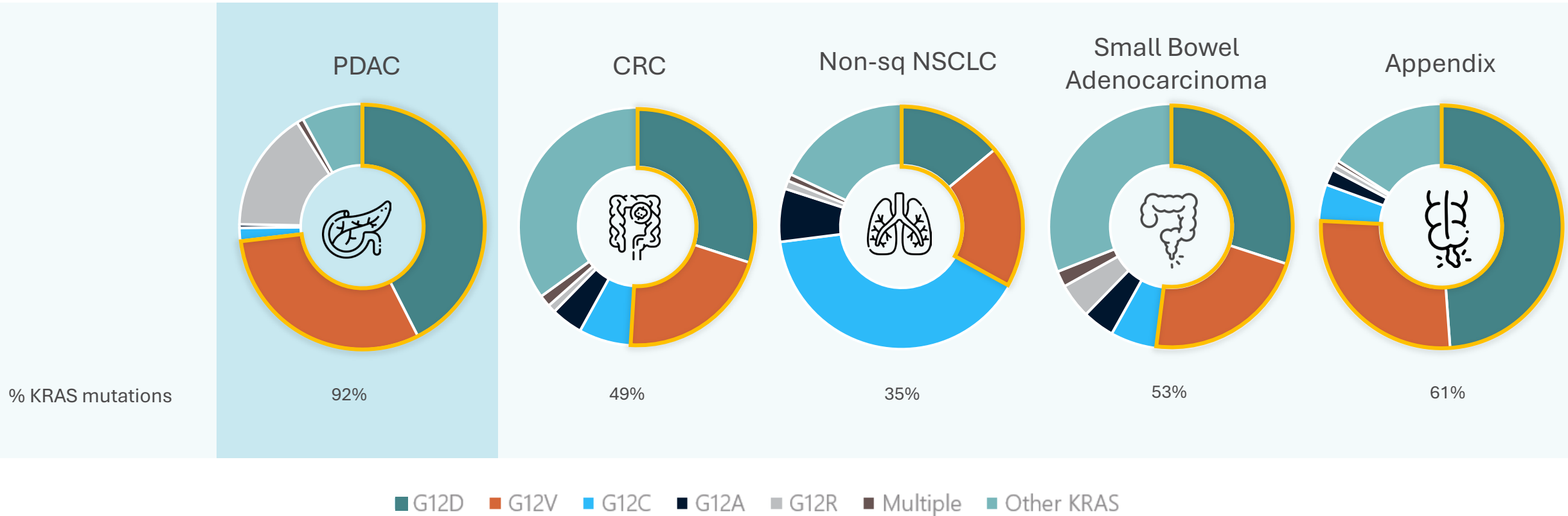
- First generation, SiG12DLoder siRNA
 - Completed Phase 2 clinical trial, shows strong trend for 9.3 months improvement in overall survival with siG12DLoder + SoC chemo vs. SoC chemo alone
- Second generation, SIL204 siRNA
 - Improved stability, broader silencing against various KRAS mutations
 - Successful preclinical results in metastatic models with subcutaneous administration and primary tumor models with intratumor administration
 - Phase 2/3 clinical trial, planned Q1, 2026, using comprehensive integrated approach administering systemic (subcutaneous) and intratumor administration

Compelling investment proposition

- Listed on Nasdaq on August 2024
- Late-Stage Ready Asset with Regulatory Path Forward

KRAS Oncogene is a Validated Target for Numerous Cancers

Prevalence of The Most Common Types of KRAS Mutations Across Cancers



KRAS is the most common oncogenic gene driver in human cancers with gastrointestinal cancers having high percentages of KRAS G12D/V mutations

Pancreatic Cancer Has One of the Highest Mortality Rates of All Major Cancers

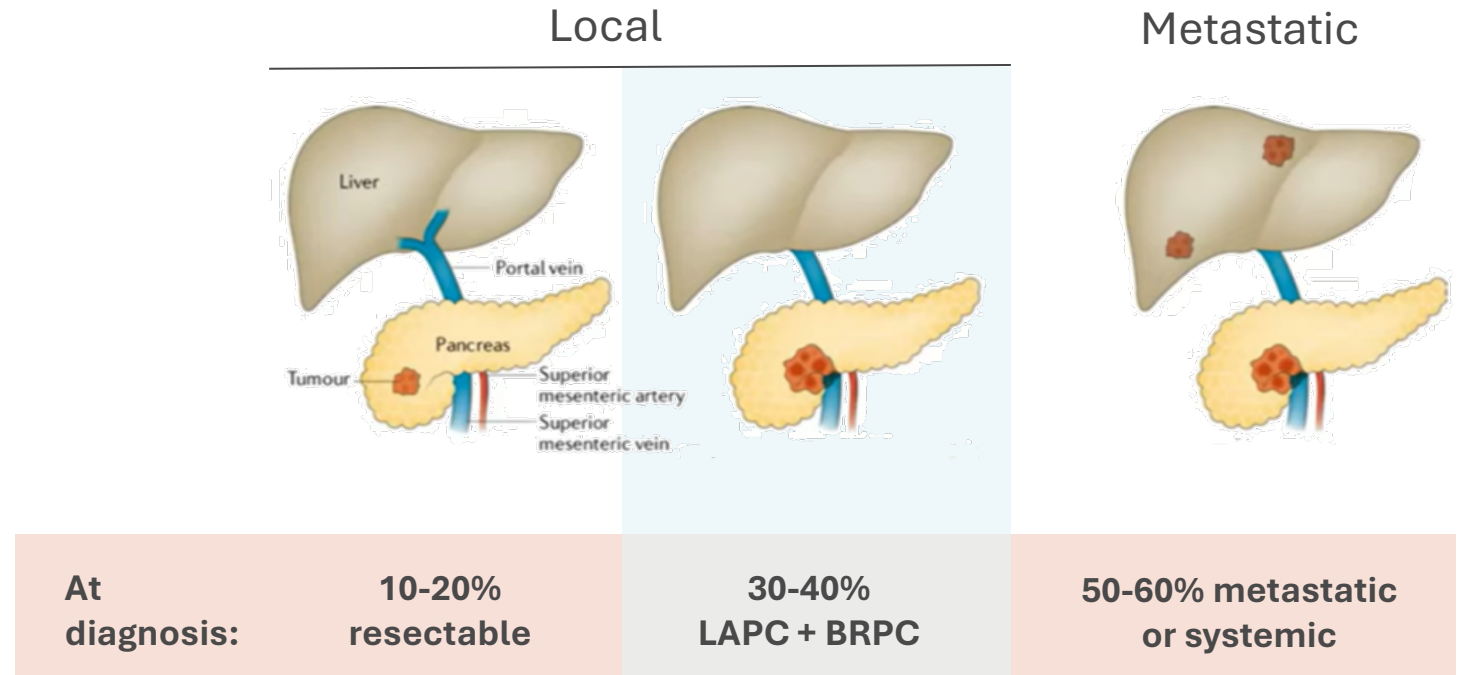
3rd leading cause today in the U.S.²

2nd leading cause by 2030²

12.8% 5-year relative survival (2014-2020) is one of the poorest in the U.S.³

Median overall survival for non-resectable PC populations is 14-17 months⁴

Types and Prevalence of Pancreatic Cancer^{4,5}



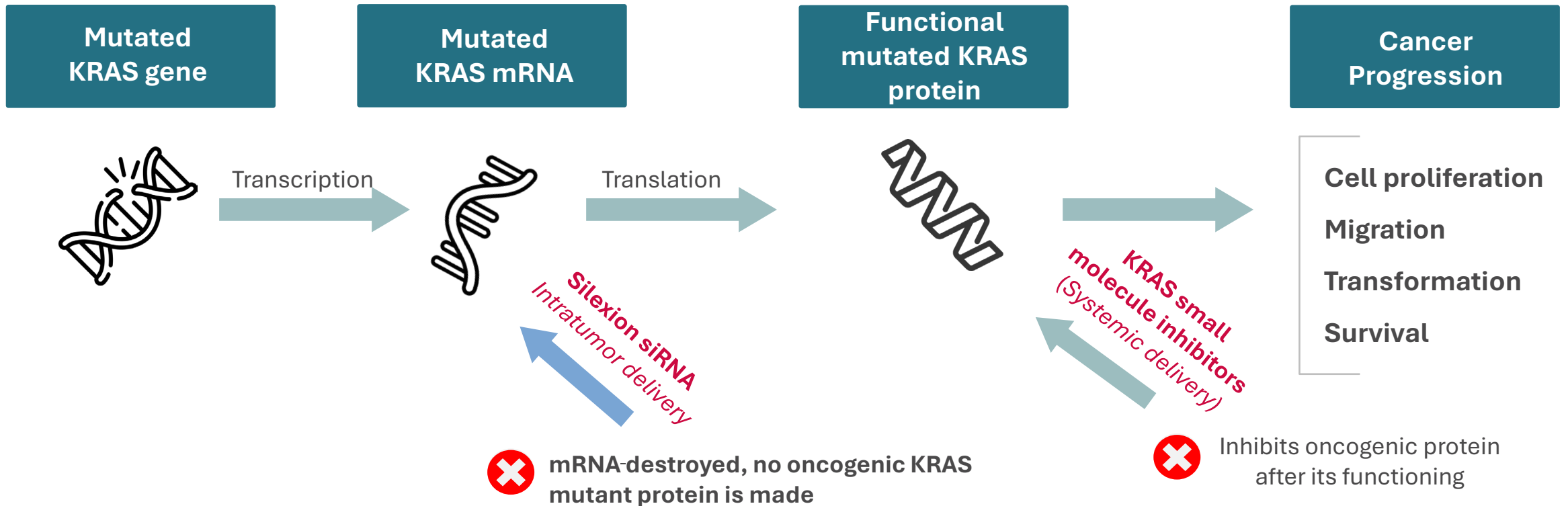
There are no effective treatment options for our intended indication LAPC

BRPC=borderline resectable pancreatic cancer; LAPC = locally advanced pancreatic cancer.

1. Bray F, et al. *CA Cancer J Clin.* 2024;74(3):229-263. 2. Hirshberg Foundation for Pancreatic Cancer Research. Pancreatic cancer Facts. <https://pancreatic.org/pancreatic-cancer/pancreatic-cancer-facts>.

3. National Cancer Institute. Cancer Stat Facts: Pancreatic Cancer. <https://seer.cancer.gov/statfacts/html/pancreas.html>. 4. Gemenetzi G, et al. *Ann Surg.* 2019;270(2):340-347. 5. Kleeff J, et al. *Nat Rev Dis Primers.* 2016;2:16022.

Innovatively Treating the Cancer-Driving KRAS at the Source and Site of Action



Moving closer to treating the mechanism of the cancer more efficiently and with a greater chance to overcome treatment-resistance

**Silexion
Innovative
Oncological
Approach May
Lead to
Significant
Improvement in
Clinical
Outcomes Over
KRAS Inhibitors**

**Limitation of currently approved and investigational
small molecule KRAS inhibitors:**

- Treatment resistance
- Low tolerability with adverse events such as rashes and GI side effects that require special monitoring
- Limited overall response rate and progression-free survival

Silexion's Approach

Inhibit oncogenic
KRAS synthesis
before it is active

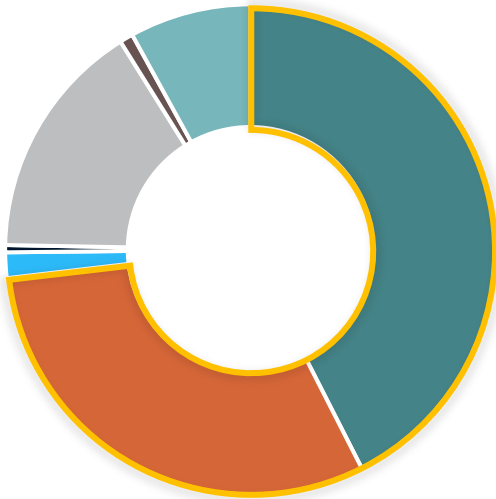
Integrated Treatment
Regimen to more
effectively treat both
the primary tumor
and micrometastases

Optimized siRNA to
enhanced stability
and broader activity
while maintaining
good safety

SIL204 is the Most Advanced siRNA Formulation for LAPC With a Significant Market Opportunity

KRAS mutations are present in ~92% pancreatic cancer cases¹

SIL204 targets > 74% of KRAS mutations in PDAC² while currently available KRAS G12C treatment are treating ~1.5%



■ G12D ■ G12V ■ G12C ■ G12A ■ G12R ■ Multiple ■ Other KRAS

Total Addressable Market in Localized Advanced Pancreatic Cancer



	U.S.	E.U.
Annual pancreatic cancer cases	66,400 ⁴	146,477 ³
KRAS-G12D/V mutated LAPC incidence*	~16,000	~35,000

ROW=rest of the world.
 *Number of KRAS G12D/V mutated LAPC were calculated based on KRAS mutations being present in 92% of pancreatic cancer patients, 70-75% with KRAS G12D and G12V mutations and 30-35% of cases being LAPC.
 1. Lee, J.K. et al. *NPJ Precis Oncol.* 2022;6(1):91. 2. Yousef, A. et al. *NPJ Precis Oncol.* 2022;6(1):27. 3. Global Cancer Observatory. Pancreatic Cancer. 2022. <https://gco.iarc.who.int/media/globocan/factsheets/cancers/13-pancreas-fact-sheet.pdf>. 4. National Cancer Institute. Cancer Stat Facts: Pancreatic Cancer. 2023. <https://seer.cancer.gov/statfacts/html/pancreas.html>.

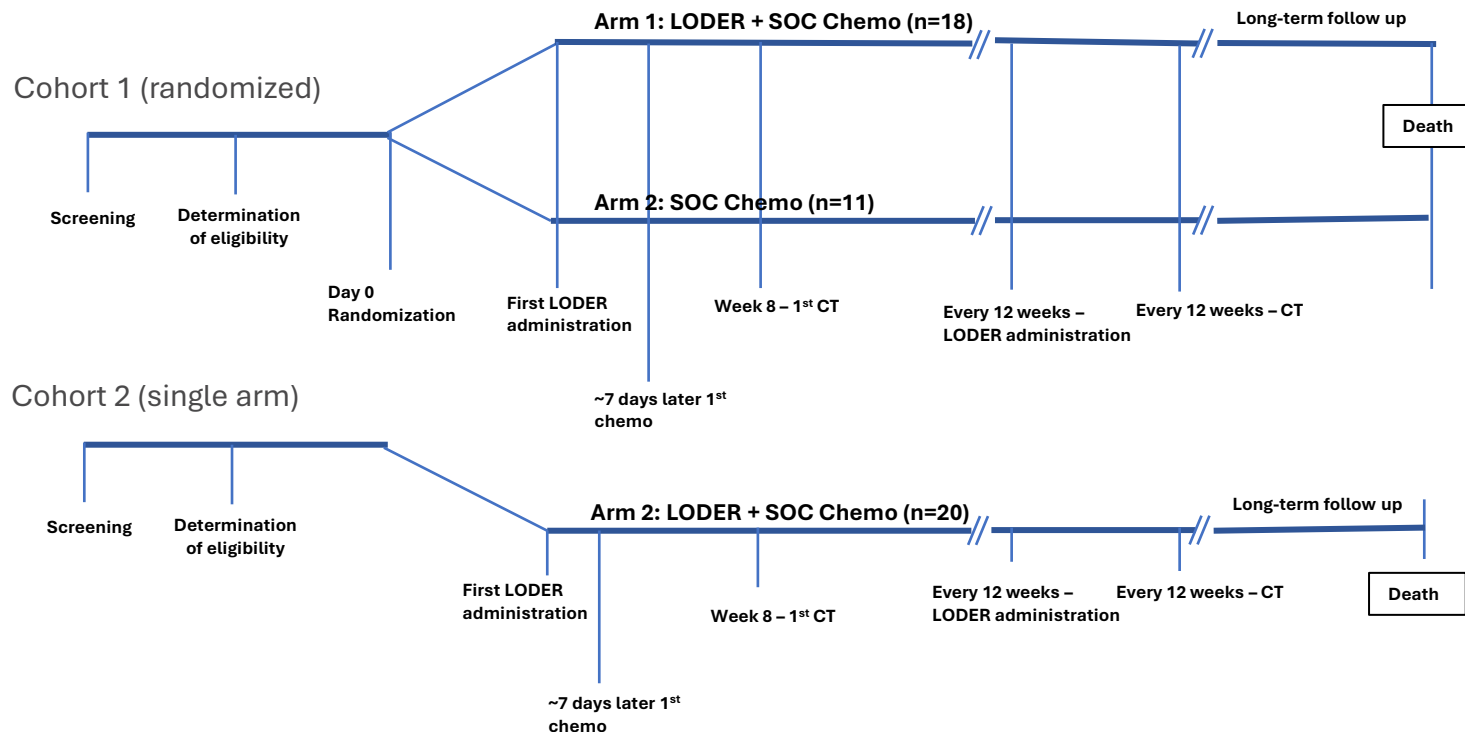




LODER (First generation siRNA)
Phase 2 Clinical Trial Data

Phase 2 Trial of Loder Completed in 2023 – a Proof-of-Concept

Two-part, open label, study of LODER + SoC chemotherapy vs SoC chemotherapy alone across the U.S. and Israel in patients with non-resectable pancreatic cancer



Key inclusion criteria

Non-resectable without signs of metastasis

ECOG Status ≤ 1

Both cohorts all patients meeting inclusion/exclusion criteria randomized without checking for KRAS mutation status

Endpoints

Overall survival (OS)

Response rate (RR, RECIST v1.1)

Safety

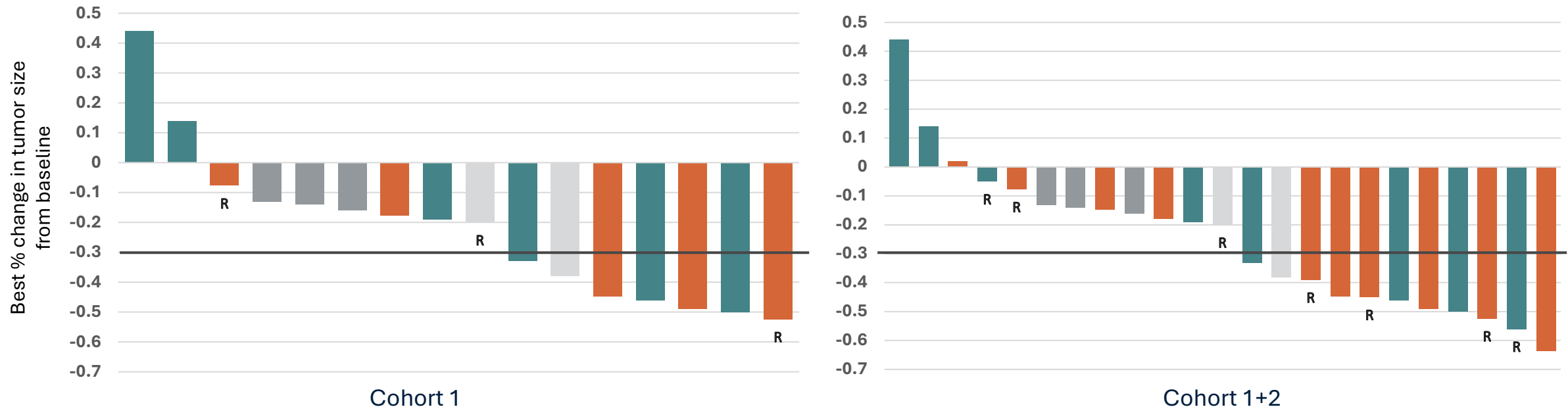
Tolerability

Baseline Characteristics and Cohorts Information

	Cohort 1 (n=29)	Cohort 2 (n=20)
Design/Arms	Randomized, controlled (SoC)	Single arm
Population	Locally advanced PC (LAPC)	Non-resectable (BRPC+ LAPC)
Nationality	62% U.S. (4 sites) , 38% Israel (5 sites)	
Male/ Female %	42% male; 58% female	
Median age (years)	69.7	64.9
KRAS Mutations	G12D/V*: Loder 11/12, Control 5/10 G12R*: Loder: 1/12, Control 5/10	G12D/V*: Loder 7/9 G12R*: Loder: 2/9
Avg Loder cycles	2.8	2.1
Total number of Loder injections	370	
SoC chemotherapy	gemcitabine/nab-paclitaxel (GnP)	(modified) FOLFIRINOX ((m)FFX)

Due to results of a clinical trial indicating FOLFIRINOX's advantage over GnP as SoC chemotherapy, cohort 2's SoC chemotherapy was changed from GnP (used in cohort 1) to FOLFIRINOX.

Loder Treatment Led to Robust Objective Response Rate in Patients with LAPC Harboring G12D/V Mutations*



G12D G12V
 Chemo:
 Loder:

R = Non-resectable tumor becomes resectable

	Cohort 1 LODER+Chemo	Cohort 1+2 LODER+Chemo	Chemo
% Response	55 (6/11)	56 (10/18)	20 (1/5)
% Response+ becoming resectable	64	67	40

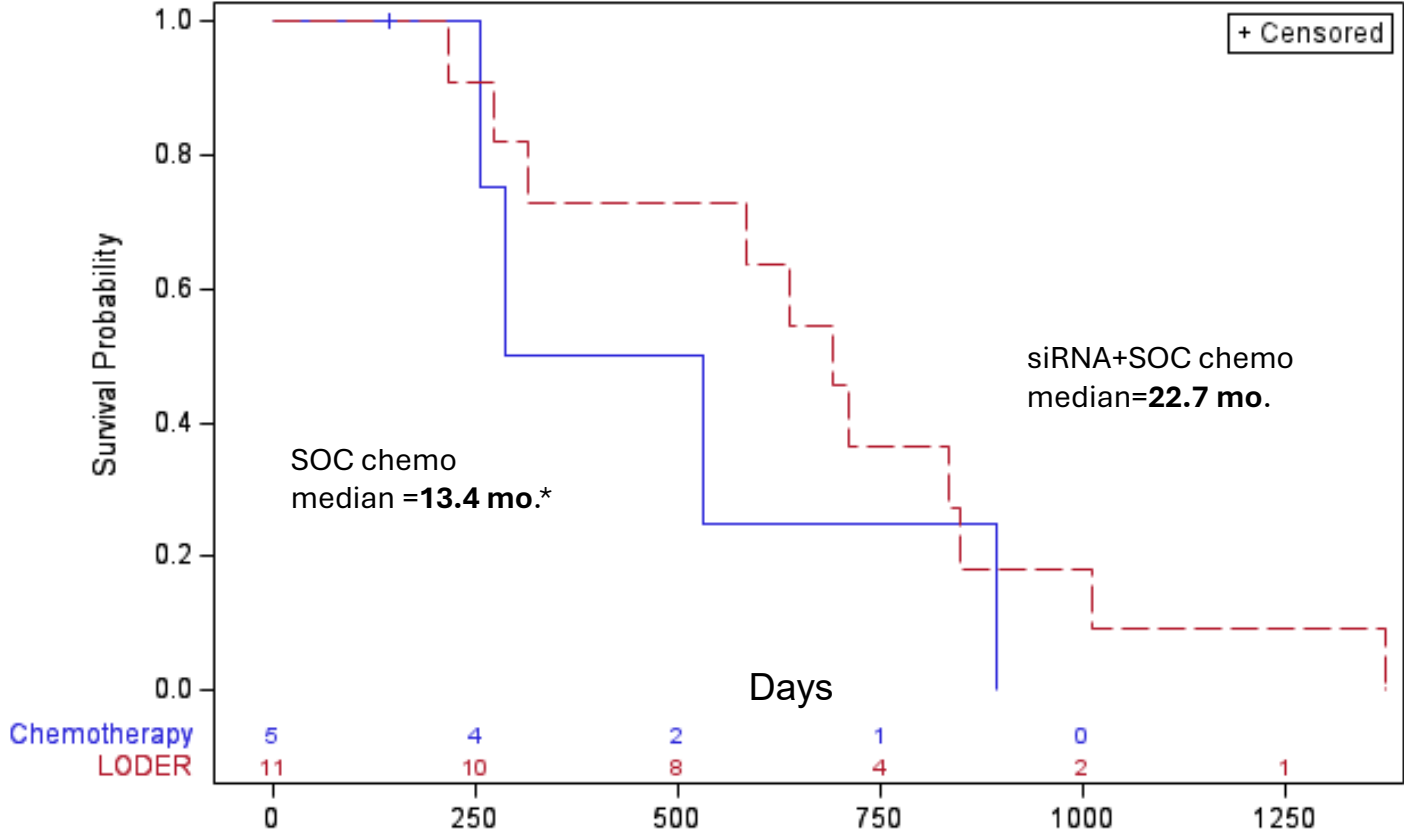
LAPC=locally advanced pancreatic cancer.

*Overall response rate was confirmed by RECIST 1.1 of the target tumor, as analyzed by sites.

Bar curves below the solid black line starting at y-axis -0.3 indicates criteria for positive RECIST response.

Cohort 1 Patients Treated with Loder Had 9.3 Months Improvement in Overall Survival

Overall Survival in Cohort 1



Hazard ratio (HR)=0.59, (95% CI, 0.18, 1.96, p=0.39)

Time to death is slower, 41% reduction in the rate of mortality.

Patients living longer with Loder+SOC vs. SOC

Phase 2 Safety Results

Serious Adverse Events (SAEs) Related to Treatment in Patients with LAPC who Received LODER + Chemotherapy (treatment plus EUS-endoscopy administration procedure)

SAE	LODER + SOC chemo (n=38)	
	All grades n (%)	Grades 3-4 n (%)
Gastrointestinal disorders	3 (8%)	2 (5%)
Hematemesis	1 (3%)	0 (0%)
STOMACH ACUTE PAIN	1 (3%)	1 (3%)
Gastric hemorrhage	1 (3%)	1 (3%)
General disorders and administration site conditions	2 (5%)	0 (0%)
Fever	2 (5%)	0 (0%)
Hepatobiliary disorders	3 (8%)	2 (5%)
Cholangitis	2 (5%)	1 (3%)
Obstructive Hyperbilirubinemia	1 (3%)	1 (3%)
Infections and infestations	2 (5%)	2 (5%)
Sepsis	1 (3%)	1 (3%)
Pancreas infection	1 (3%)	1 (3%)
Depression	1 (3%)	1 (3%)
Injury, poisoning and procedural complications	1 (3%)	1 (3%)
procedural hemorrhage	1 (3%)	1 (3%)
Nervous system disorders	1 (3%)	1 (3%)
Presyncope	1 (3%)	1 (3%)

LODER Was Overall Well Tolerated

- The Phase 2 PoC clinical trial investigators reported that LODER treatment was well tolerated; Safety events were primarily related to procedure
 - Intratumor administration of extended-release siRNA via endoscopy (EUS) is safe
- No Treatment Emergent Adverse Events (TEAEs) leading to study discontinuation related to LODER treatment
- No meaningful observations in any vital sign parameter nor any physical examination findings in the study
- Independent Drug Safety Monitoring Board (DSMB) Reviews had no safety concerns nor safety restrictions
- In a subset analysis, no measurable amount of LODER was detected (<BLQ) in any plasma samples suggesting low systemic levels

Successful preclinical results in metastatic models with subcutaneous administration and primary tumor models with intratumor administration

Optimizations allows for comprehensive approach: systemic and intratumor administrations

- siRNA:
- Enhanced stability
 - Broadening silencing activity

Leveraging LODER Clinical Data to Further Improve SIL204 Potential Efficacy and Safety

	LODER	SIL-204
siRNA target	KRAS G12D/V+ KRAS amplify	KRAS G12D/V+ KRAS amplify, potential pan KRAS
Stability in human serum (HS) and rat pharmacokinetics	HS <1 hr	HS > 48 hrs, Remains at substantial levels for >56 Days in plasma and tissues after single subcutaneous administration to rats
Access to tumor cell site of action	No hydrophobic lead	Added hydrophobic lead to increase siRNA access into cell
Route and Ease of administration	EUS-endoscopy* with larger needle; Required loading device	S.C. administration and EUS Endoscopy* with smaller and more flexible needle; No loading device needed
Improvement in OS with chemo vs. chemo alone	+ 9.3 months HR=0.59 Reduction in rate of death by 41% compared to chemotherapy alone	TBD in Phase 2/3 trial with expected improvement in OS
Safety	Generally well tolerated; Safety events were primarily related to procedure	Expectations for similar safety profile

HR=Hazard Ratio.

17 *EUS endoscopy is a standard procedure used to obtain ultrasound guided biopsies once every 3 months.

SIL204 Shows Broad Inhibition Across Human KRAS Mutations at Sub-Nanomolar Concentrations

SIL204 maintains and expands the silencing activity of the siG12DLoder

Model is a co-transfection setup where human KRAS is transfected in mouse Hepa1-6 cells with Dual-Glo reporter plasmids.

Mutation	Negative siRNA Control	WT KRAS	KRAS G12D	KRAS G12V	KRAS G12C	KRAS G12R	KRAS Q61H*	KRAS G13D*
IC ₅₀ (nM)		0.16	0.19	0.44	0.47	0.59	0.24	0.37
MAX Inhibition (%)	0-7	91	90	80	73	71	88	88

IC₅₀=half-maximal inhibitory concentration.

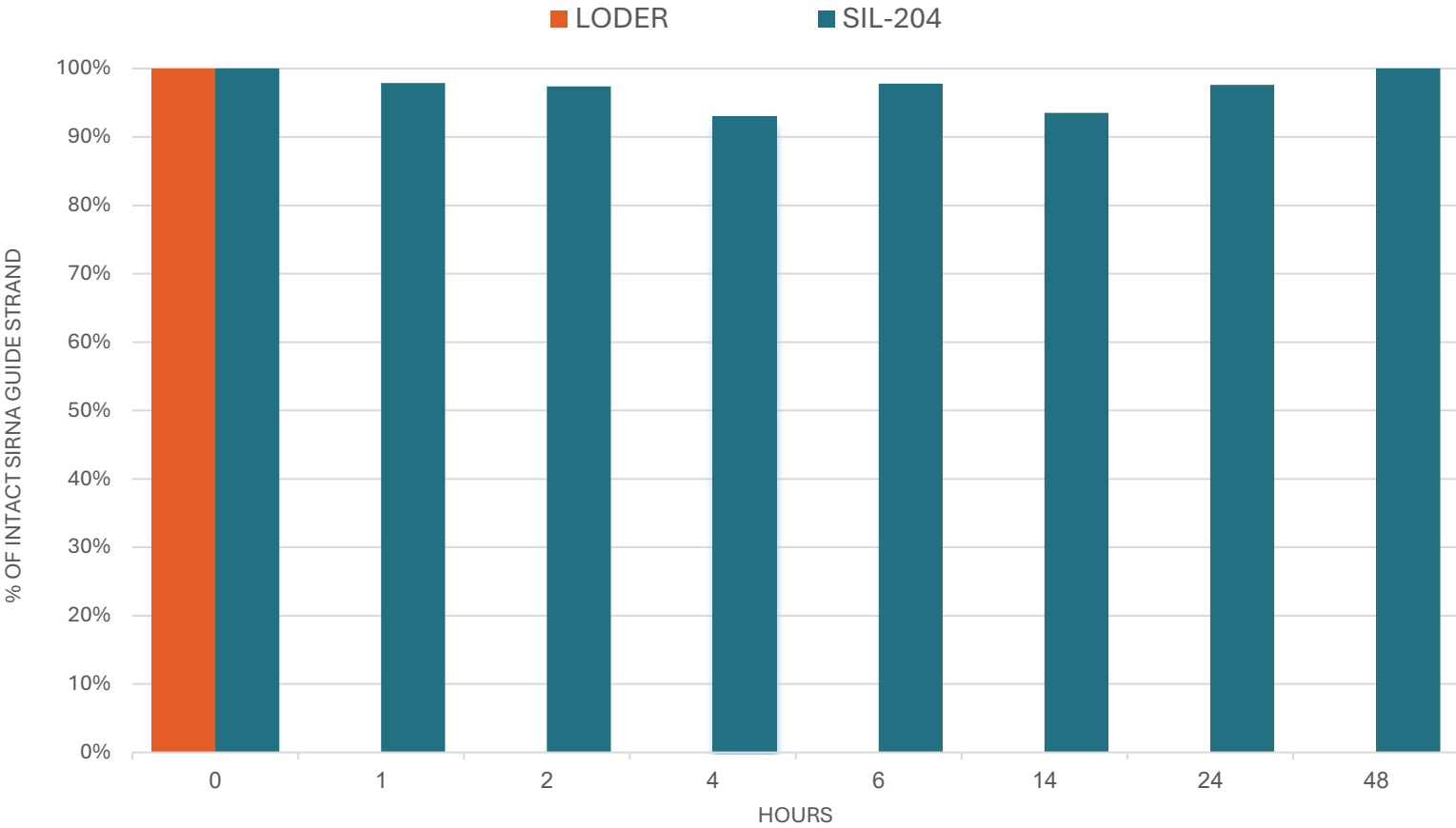
*G13D and Q61H tested in separate studies from the G12 mutations and wild type (non-mutated).

18 Negative siRNA control collected over various studies

SIL204 is Stable In Vitro for Over 48 Hours in Human Serum

siRNA strand placed in human serum and tested for stability

Stability of siRNA Strand in Human Serum



Potentially longer effectiveness of siRNA

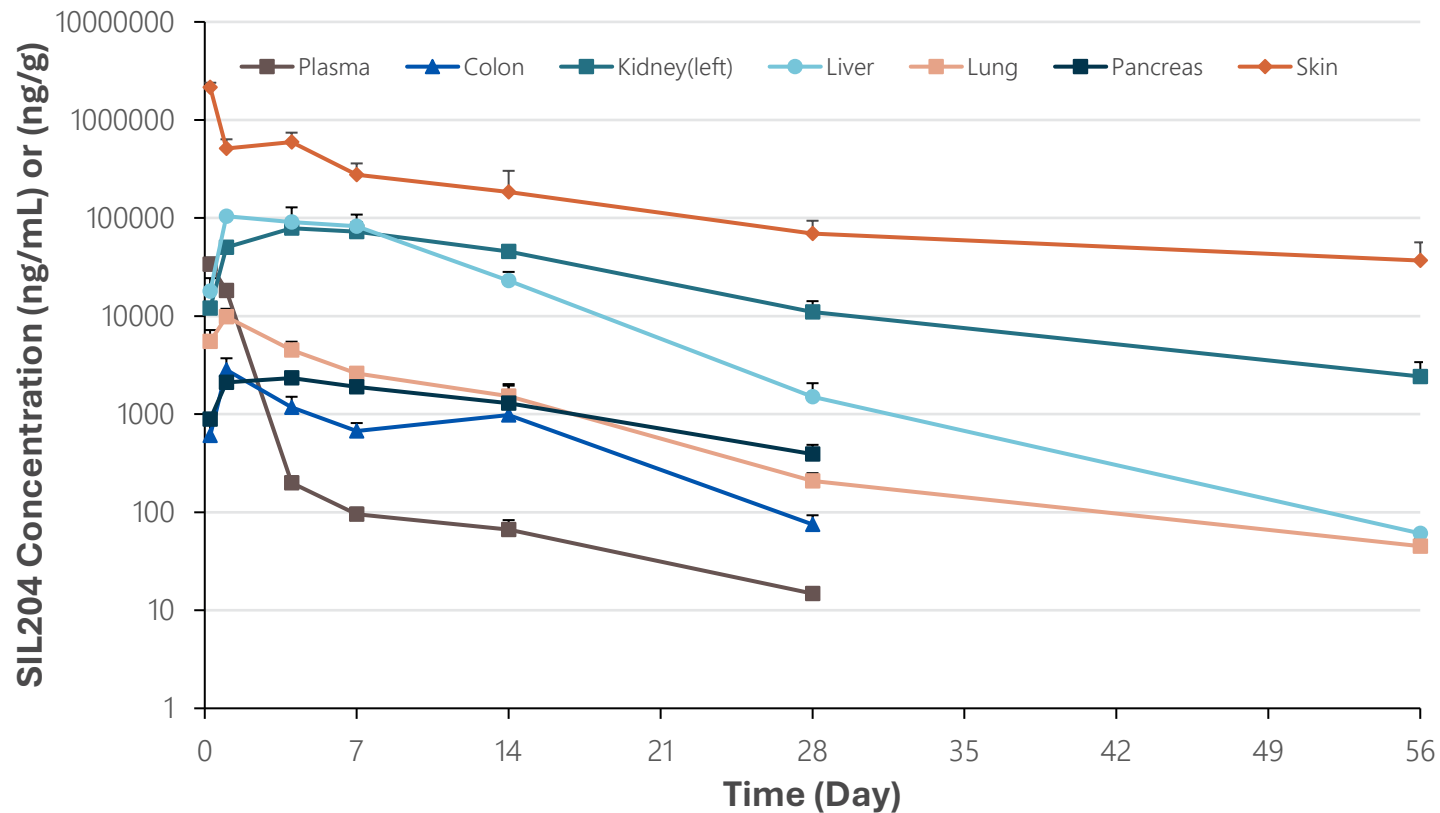
Greater ability to diffuse throughout the fibrous tumor environment

Potential in other indications

Previous studies have shown siG12D (LODER) half-life to be 5 min in human serum.

SIL204 Remains at Substantial Levels for >56 Days in Plasma and Tissues

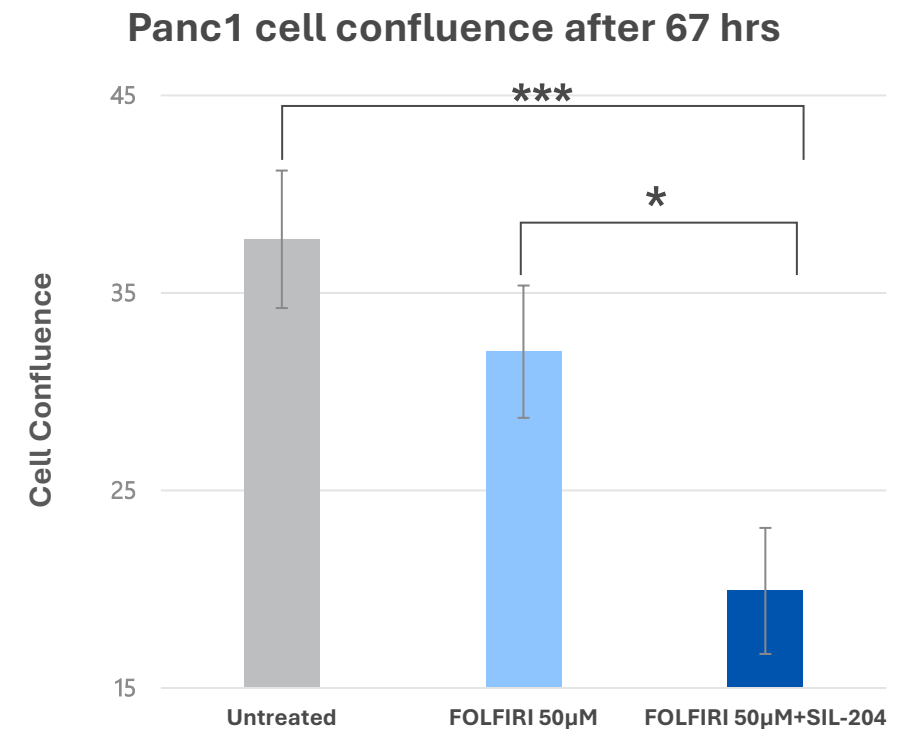
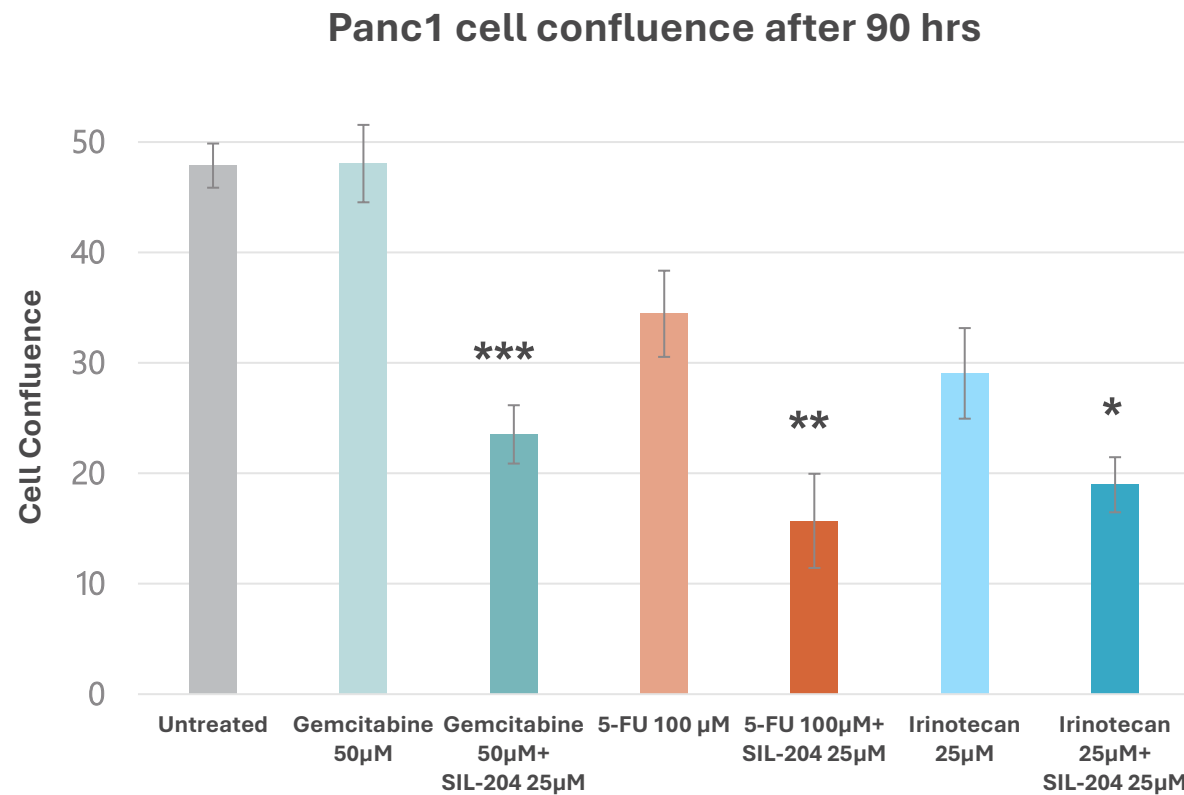
Single subcutaneous administration SIL204 solution (10mg, not formulated) to Sprague Dawley rats



Potential for longer effectiveness of siRNA for treating micrometastases with clinical dosing on monthly basis

SIL204 Behaves Synergistically with Fluorouracil and Irinotecan-Containing Chemotherapy

Basis for first line chemotherapy for pancreatic cancer. Preclinical study measuring cell confluence of the human pancreatic cell line Panc-1 containing a G12D KRAS Mutation



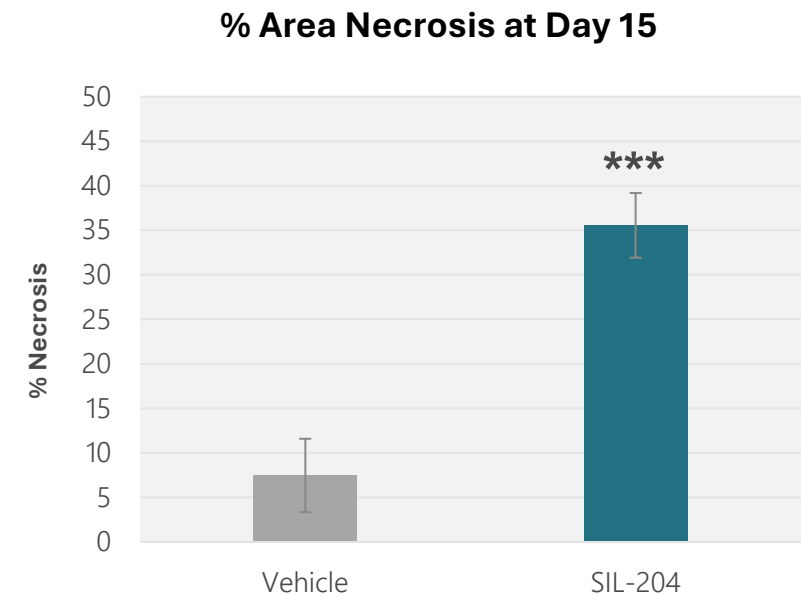
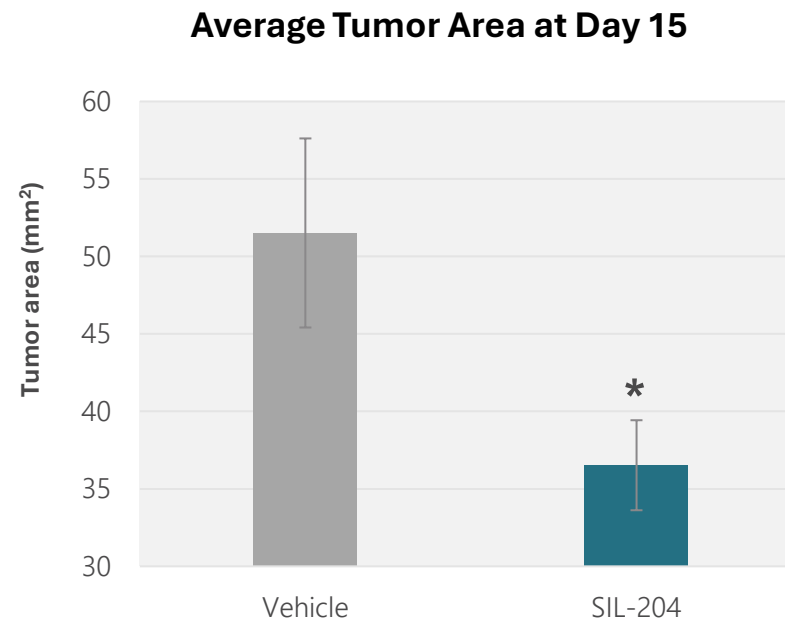
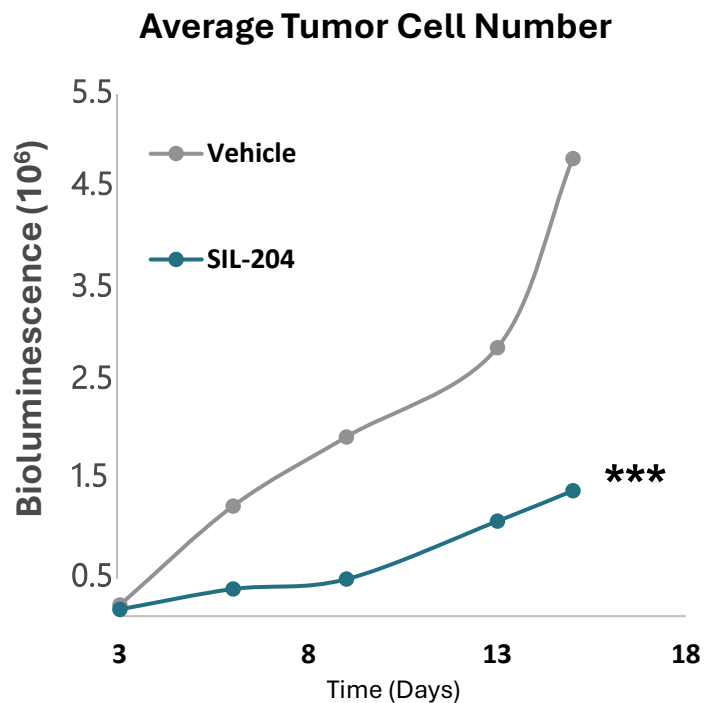
Intratumor Administered SIL204 Inhibited Human Pancreatic Cancer Xenograft Growth in Mice

SIL204 significantly reduced tumor volume and growth while increasing tumor necrosis (cell death)

Day 1: Capan-1 (KRAS G12V) luciferase cells were xenografted to mice (s.c.) concurrently with SIL204 formulated in extended-release microparticles

Days 3-15: mice were evaluated for bioluminescence to evaluate relative tumor cell counts

Day 15: tumors were removed, area determined and analyzed by histology for % necrosis from tumor center slice

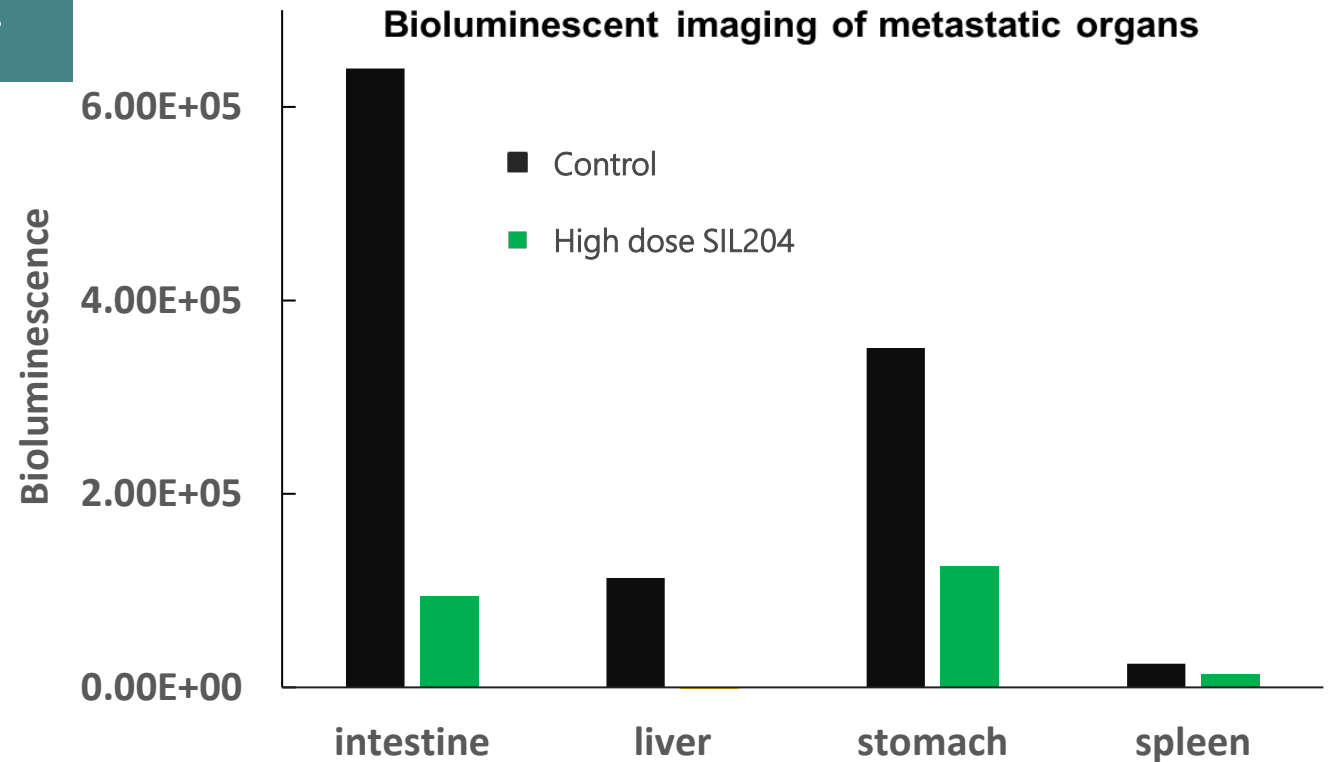
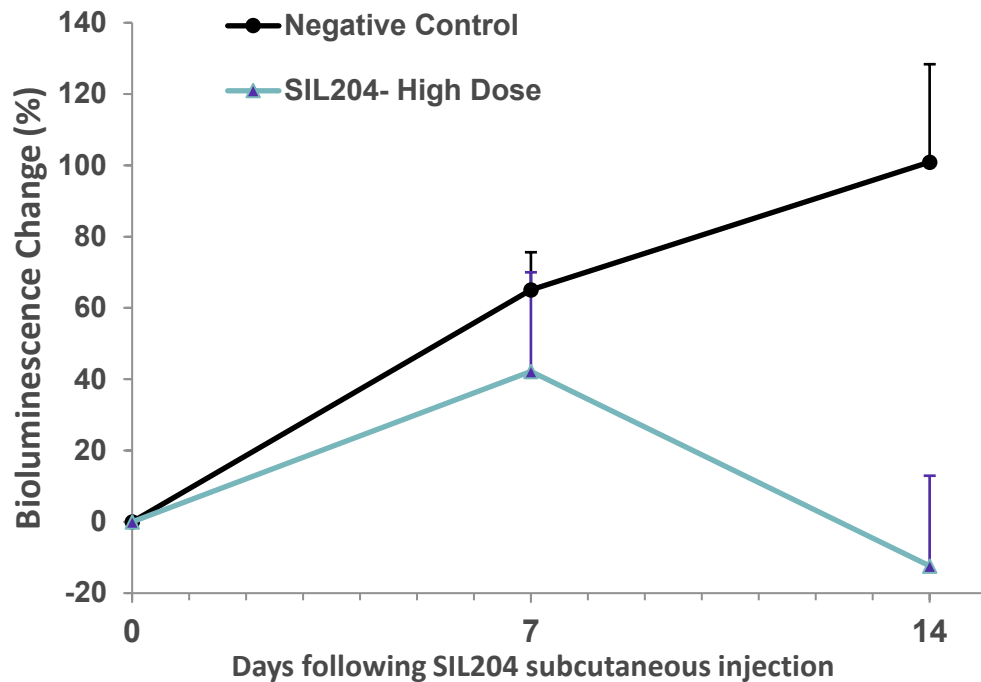


Systemic Administration of siRNA Strongly Supported by Preclinical Data

Subcutaneous SIL204 Proved Effective in Mouse Metastatic Pancreatic Orthotopic Models

Animal model represents human equivalent dose of SIL-204

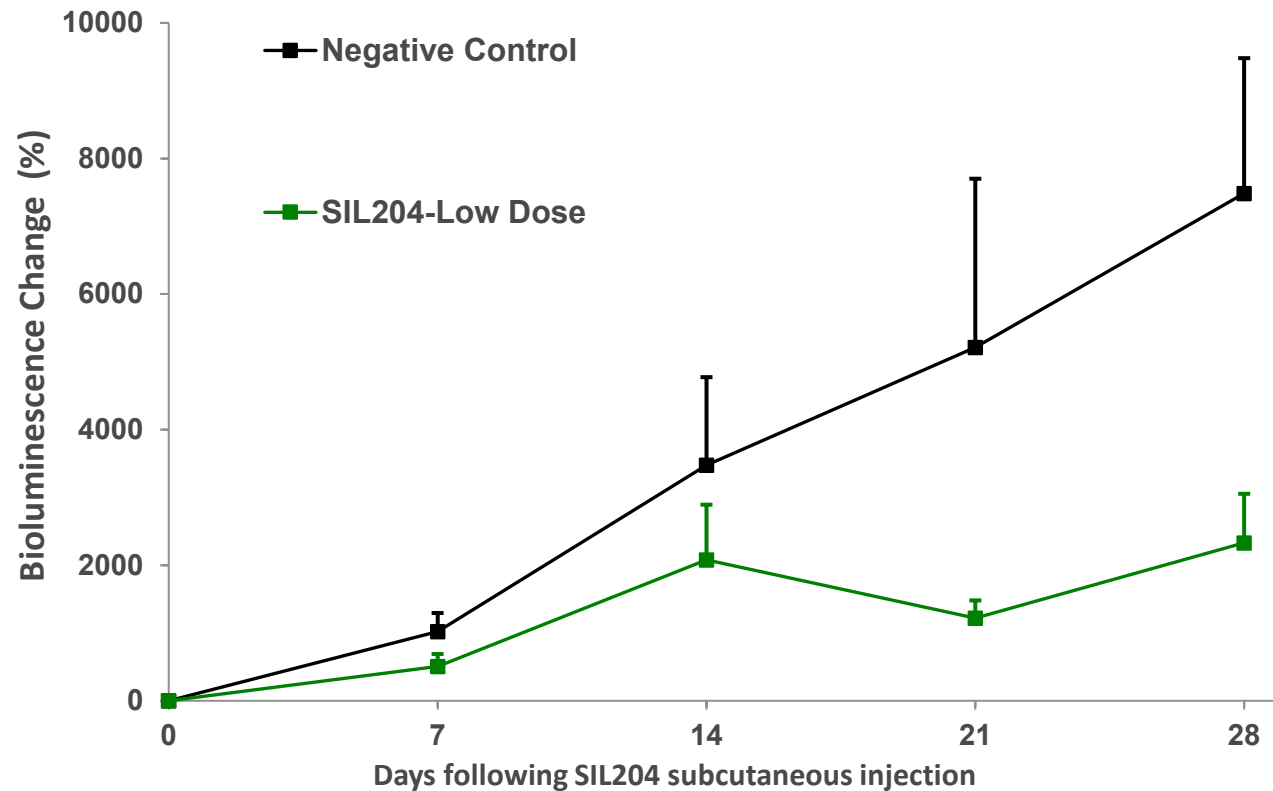
High dosage subcutaneous injection of SIL204 ablated xenograft tumor



* Human tumor cell line Panc-1 harboring KRAS G12D mutation

Systemic Administration of siRNA Strongly Supported by Preclinical Data

Subcutaneous SIL204 Proved Effective in Mouse Metastatic Pancreatic Orthotopic Models
Animal model represents the human equivalent dose of SIL-204

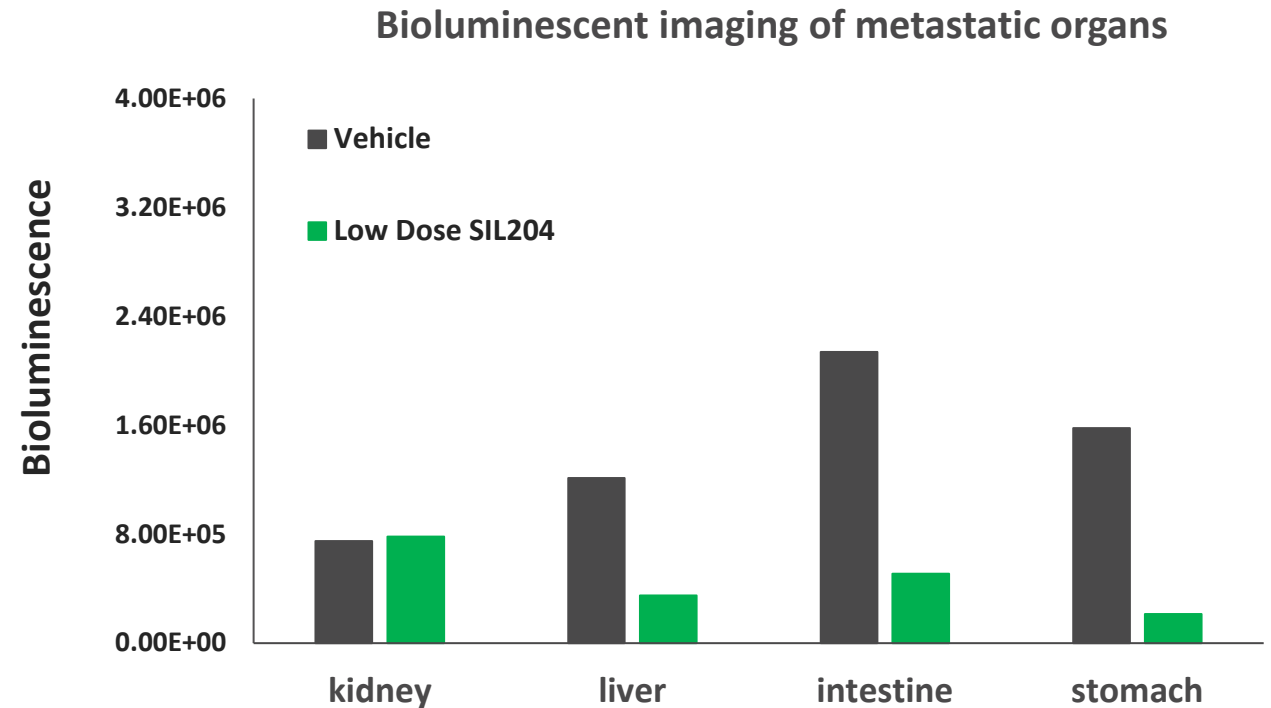
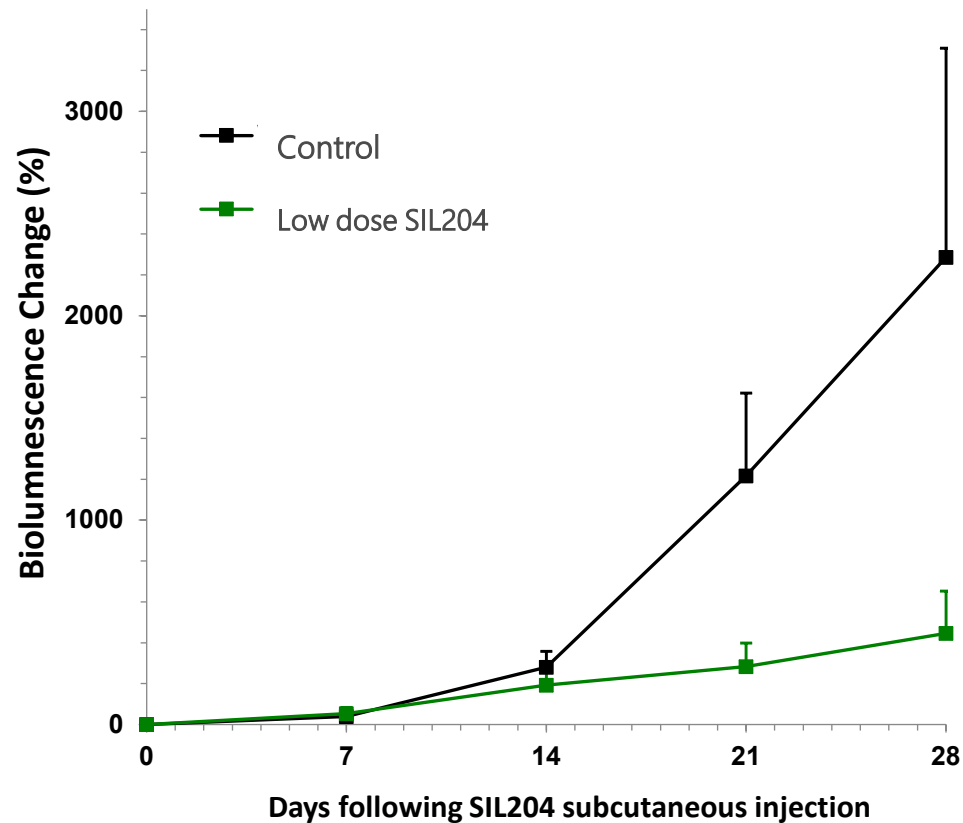


Low dosage subcutaneous injection of SIL-204 inhibited tumor growth

Systemic Administration of siRNA Strongly Supported by Preclinical Data

Subcutaneous SIL204 Proved Effective in Mouse Metastatic Pancreatic Orthotopic Models

Animal model represents human equivalent dose of SIL-204



SIL204 Development Strategy in LAPC

2023	2024	H1 2025	H2 2025	H1 2026	H2 2026
<p>✓</p> <p>Clinical proof of concept for Loder in LAPC in an approvable endpoint for FDA</p>	<p>✓</p> <p>Optimization of siRNA on various fronts; selection of SIL-204</p> <p>Received guidance on trial design from the German Federal Institute for Drugs and Medical Devices (BfArM), intratumor administration</p>	<p>✓</p> <ul style="list-style-type: none"> Initiate toxicology studies SIL-204 GMP production API (SIL-204) <p>Meeting with German authorities for regulatory buy-in/scientific advice (BfArM) on integrated regimen, and plans to proceed to Phase 2/3 trial</p>	<p>GMP production injectable formulation</p> <p>Meeting with Israel Health authorities planned to discuss program</p>	<p>Initiate Phase 2/3, LAPC Germany/Israel</p> <p>Submit CTA in E.U. for Phase 2/3</p>	<ul style="list-style-type: none"> Leverage safety clinical data from first trial segment Phase 2/3 Pre-IND meeting FDA Submit IND to FDA Expand Phase 2/3 to USA\additional EU, etc

✓ Indicates completed activity. Unmarked activities to be performed.

Focused Pipeline to Address KRAS-driven Solid Tumor Localized Cancers

Program	Indication	Setting	Discovery	Preclinical	Phase 1	Phase 2	Phase 3	Status/ Anticipated Milestone
LODER siG12D + KRAS amplify with extended release PLGA delivery system	Locally advanced pancreatic cancer	Adjunct to chemotherapy				Phase 2 Completed		Phase 2 completed: observed 9.3 months improvement with LODER over SOC. Continue development of SIL204.

Current Focus: Second generation SIL204

SIL204 (Integrated treatment regimen) KRAS G12D/V + KRAS amplify	Locally advanced pancreatic cancer	Adjunct to chemotherapy						Q1 2026: CTA submission in E.U. for Phase 2/3 1H 2026: Initiate Phase 2/3
	Colorectal cancer	Adjunct to chemotherapy						H2 2025: Initiate preclinical
SIL204 adjunct to CPIs	KRAS-driven cancers	Adjunct to CPI+ chemotherapy						H2 2025: Initiate preclinical

Strong Intellectual Property Protection

Submissions	Term
Patents supporting siG12DLoder	10 patents issued world-wide, 6 patents pending. Protection until 2030 plus extension
Patents supporting SIL204 <ul style="list-style-type: none"><li data-bbox="157 571 1704 654">• Inhibition of KRAS expression and methods of use thereof include composition of matter, positive patent office review<li data-bbox="157 699 1704 742">• Compositions for inhibition of KRAS expression and treatment regimens therewith	PCT (PCT/ IL2023/051276). Expected protection 2043 plus estimated extension up to 2048) Provisional (anticipated up to at least 2046 plus extension)
<ul style="list-style-type: none"><li data-bbox="157 813 1704 892">• siRNA against KRAS G12x for regional perineural invasion or pain associated with a solid tumor	Pending US/EU, expected term till 2040 plus extension

Exclusivity can be extended under country-specific regulatory-based extension rules.

World-Renowned Expert Scientific Advisory Board



Eileen M. O'Reilly, MD

Memorial Sloan Kettering, NY, NY

Winthrop Rockefeller Endowed Chair of Medical Oncology; Co-Director, Medical Initiatives, David M. Rubenstein Center for Pancreatic Cancer Research; Section Head, Hepatopancreatobi



Thomas Seufferlein, MD

University Hospital Ulm, German

Director of Internal Medicine University Hospital Ulm, President German Cancer Society



Milind Javle, MD

The University of Texas & MD Anderson Cancer Center, Houston, TX

Professor, Department of Gastrointestinal (GI) Medical Oncology, Division of Cancer Medicine



Matthew Katz, MD

The University of Texas & MD Anderson Cancer Center, Houston, TX

Department Chair, Department of Surgical Oncology, Division of Surgery and Professor.



Philip A. Philip, MD

Henry Ford Health, Detroit, MI

Director, Gastrointestinal Oncology; Co-Director, Pancreatic Cancer Center; Medical Director, Research and Clinical Care Integration, Henry Ford Cancer Institute



Andrew M. Lowy, MD

UC San Diego, San Diego, CA

Chief, Division of Surgical Oncology; Professor of Surgery



Talia Golan, MD

Sheba Tel Hashomer Hospital,, Israel

Head, Sheba Pancreatic Cancer Center - SPCC



Mark A. Schattner, MD

Memorial Sloan Kettering, NY, NY

Chief, Gastroenterology, Hepatology and Nutrition Service



Hana Algul, MD

Technical University of Munich, Germany

chair for tumor metabolism; Director of the Comprehensive Cancer Center Munich, Germany at the Klinikum rechts der Isar, and Mildred-Scheel-professor and

Highly Experienced Leadership Team



Ilan Hadar, MBA Chairman and Chief Executive Officer

> 25 years of multinational managerial and corporate experience with pharmaceutical and high-tech companies



Mitchell Shirvan, PhD, MBA Chief Scientific and Development Officer

> 30 years of experience in R&D, innovation and discovery in biotech companies



Mirit Horenshtein Hadar, CPA Chief Financial Officer

> 15 years of corporate finance experience in senior financial positions of public companies and privately held companies, in the pharmaceutical and high-tech industries



Investment Highlights

Advanced RNA
therapeutic candidate in
oncology

- Clinical-stage company with proprietary oncogene silencing siRNA platform
- Phase 2 clinical trial with first generation Loder in LAPC showed strong trend for 9.3 months improvement in survival
- Second generation SIL204 with enhanced siRNA stability, broader activity, successful preclinical models
- Integrated Treatment Regimen to more effectively treat both primary tumor and secondary micrometastases
- proof-of concept to target metastasis with subcutaneous administration
- Comprehensive integrated treatment regimen planned for pivotal trials

Late-Stage Ready Asset
with Regulatory Path
Forward

- Guidance received from German Federal Institute for Drugs and Medical Devices (BfArM) on Phase 2/3 trial
- Submit CTA in E.U. in 1H 2026 and initiate Phase 2/3 trial of SIL204 in 1H 2026
- Extension Phase 2/3 trial to U.S. H2, 2026

Strong Partnerships with
Solid IP Portfolio

- Established partnerships for GMP production of siRNA and formulations
- PCT submitted with favorable international review for claims for siRNA composition of matter and use, IP exclusivity through December 2043 plus extension (potential term to 2048)

Thank You

Ilan Hadar

Chairman & Chief Executive Officer

email: ihadar@silexion.com

Dr. Mitchell Shirvan

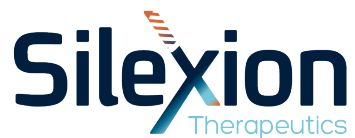
Chief Scientific and Development Officer

email: mshirvan@silexion.com

Mirit Horenshtein Hadar, CPA

Chief Financial Officer

email: mirit@silexion.com



Nasdaq: SLXN