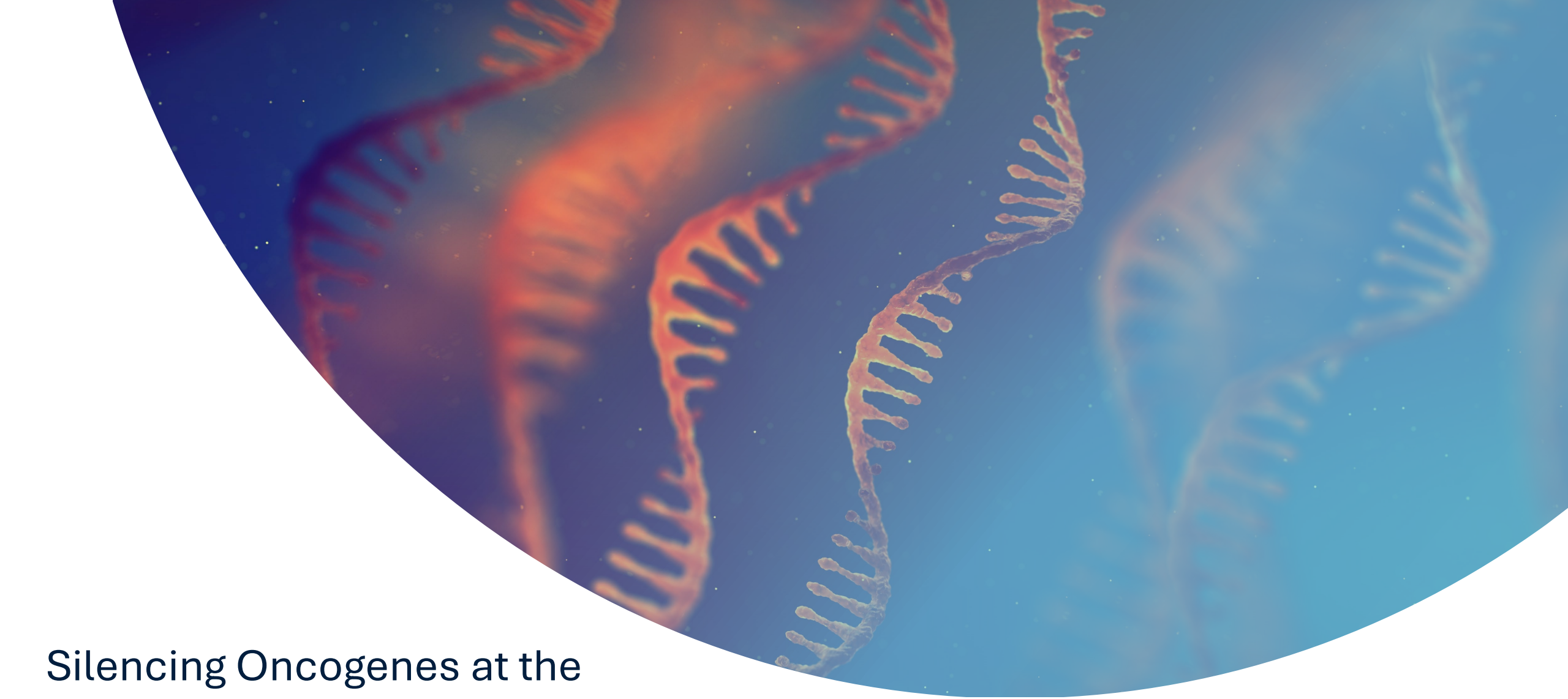


Silencing Oncogenes at the Level of Gene Expression

Corporate Presentation December 2024

Nasdaq: SLXN

Silexion Therapeutics

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.

Silexion Therapeutics

Company Overview

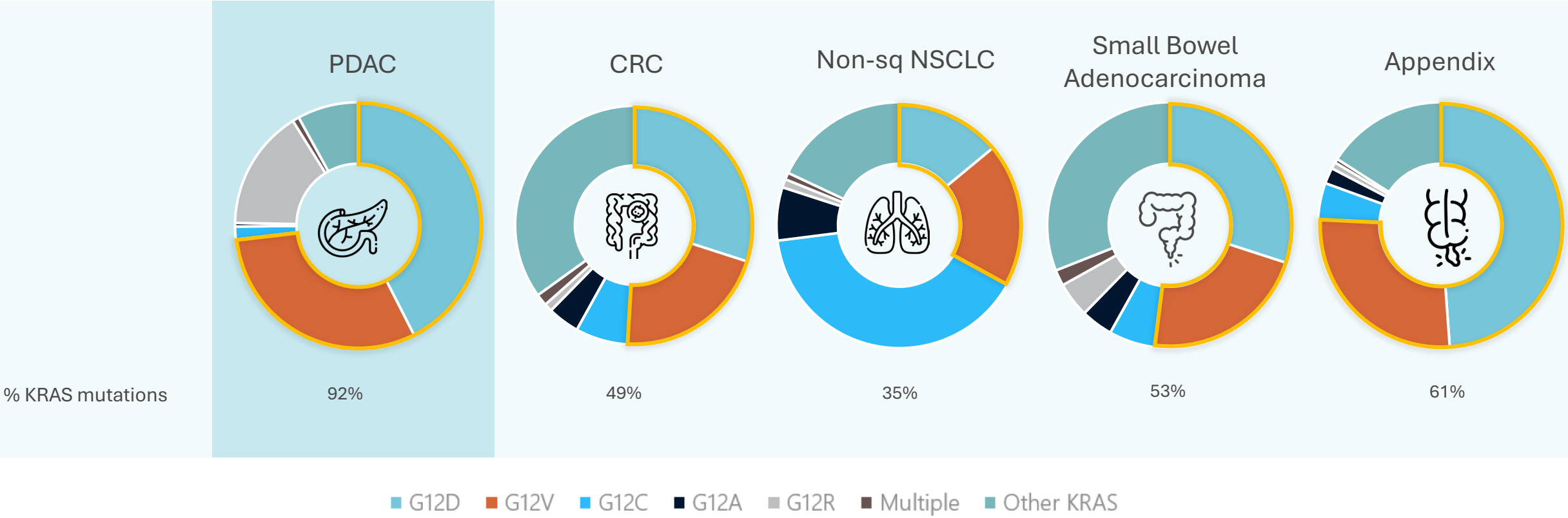
Clinical-stage company developing proprietary treatments for KRAS-driven cancers

KRAS-Focused RNA Interference Platform with Targeted Delivery	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	Loder siRNA with an extended release PLGA delivery system • Completed Phase 2 trial • Results observed a 9.3 months improvement in overall survival with Loder + chemo vs. chemo alone Lead candidate SIL-204 optimized upon Loder to enter Phase 2/3 trial
Compelling investment proposition	Listed on Nasdaq on August 2024 Late-Stage Ready Asset with Regulatory Path Forward

Silexion Therapeutics

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

CRC=colorectal cancer; LAPC=locally advanced pancreatic cancer; NSCLC=non-small cell lung cancer.
Lee, J.K. et al. NPJ Precis Oncol. 2022;6(1):91.

Silexion Therapeutics

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

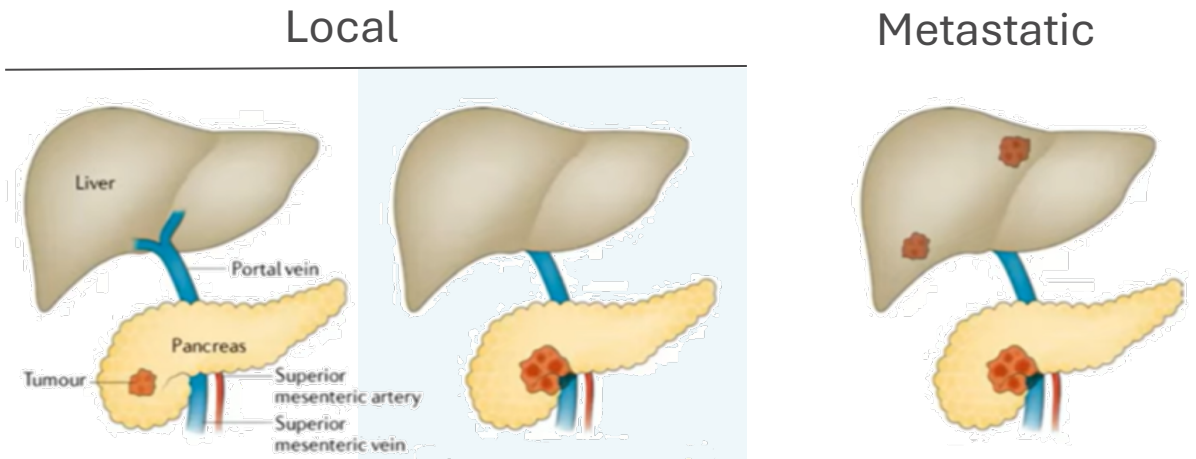
3rd leading cause today in the U.S.[2]

2nd leading cause by 2030[2]

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 months[4]

Types and Prevalence of Pancreatic Cancer[4,5]



At diagnosis:	**10-20% resectable**	**30-40% LAPC + BRPC**	**50-60% metastatic or systemic**

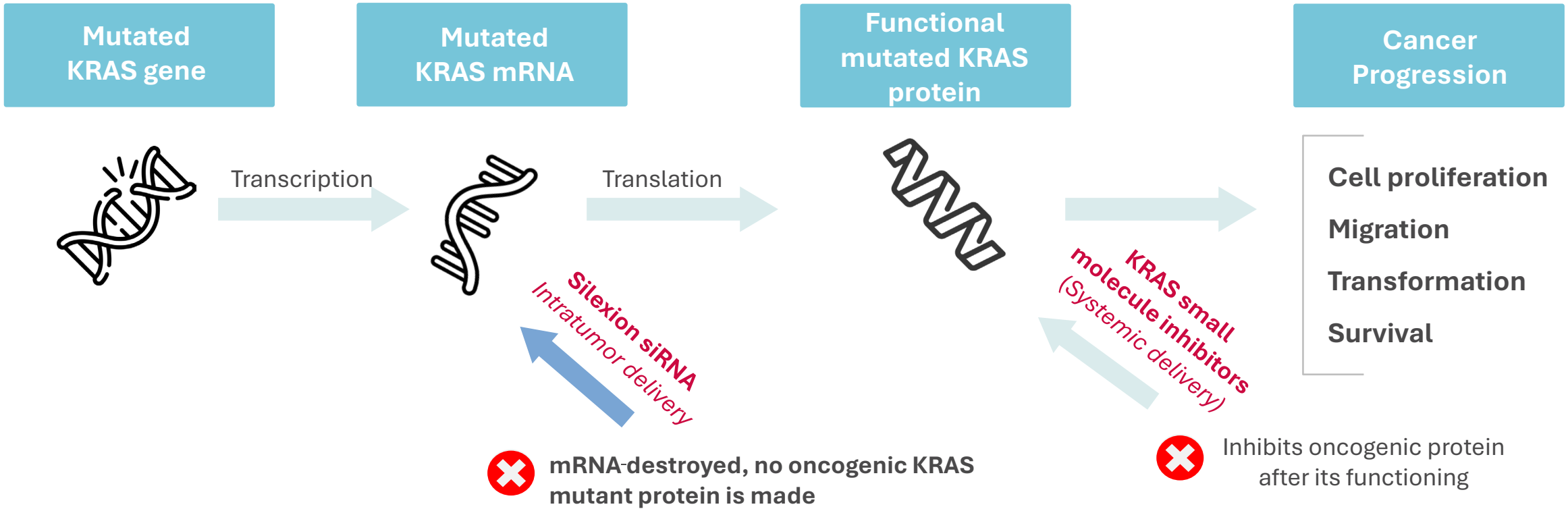
There are no effective treatment options for our intended indication LAPC

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. Gemenetzis G, et al. *Ann Surg*. 2019;270(2):340-347. 5. Kleeff J, et al. *Nat Rev Dis Primers*. 2016;2:16022.

Silexion Therapeutics

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 Therapeutics

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

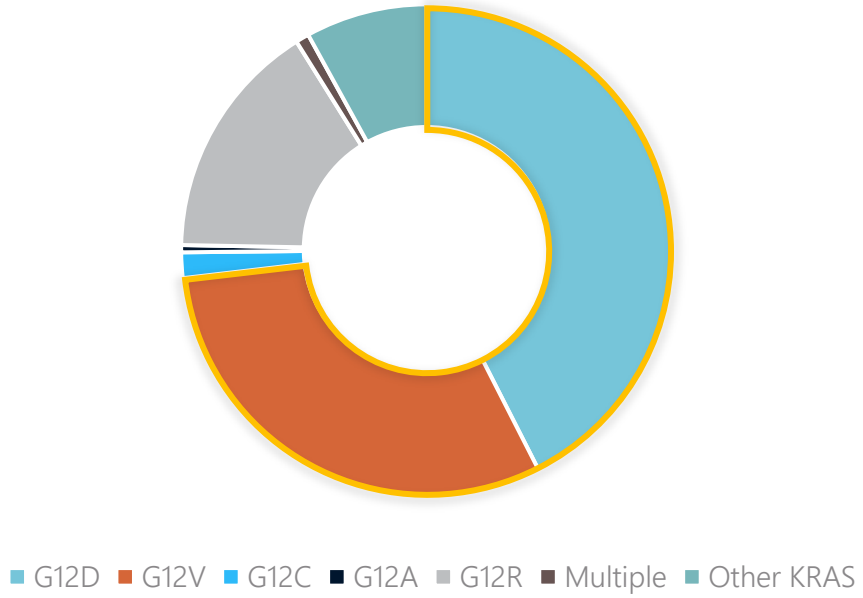
Inhibit oncogenic KRAS synthesis before it is active	Intratumor application allows for higher intratumor drug levels, overcoming the tumor's impermeable barrier	Optimized siRNA to have enhanced stability, broader activity and new formulation for better delivery

Silexion Therapeutics

SIL-204 is the Most Advanced siRNA Formulation for LAPC With a Significant Market Opportunity

KRAS mutations are present in ~92% pancreatic cancer cases[1]

SIL-204 covers > 74% of KRAS mutations in PDAC[2] while currently available KRAS G12C treatment are treating ~1.5%



Total Addressable Market in LAPC

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

LAPC = localized advanced pancreatic cancer; 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*. 20024;8(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.

Silexion Therapeutics

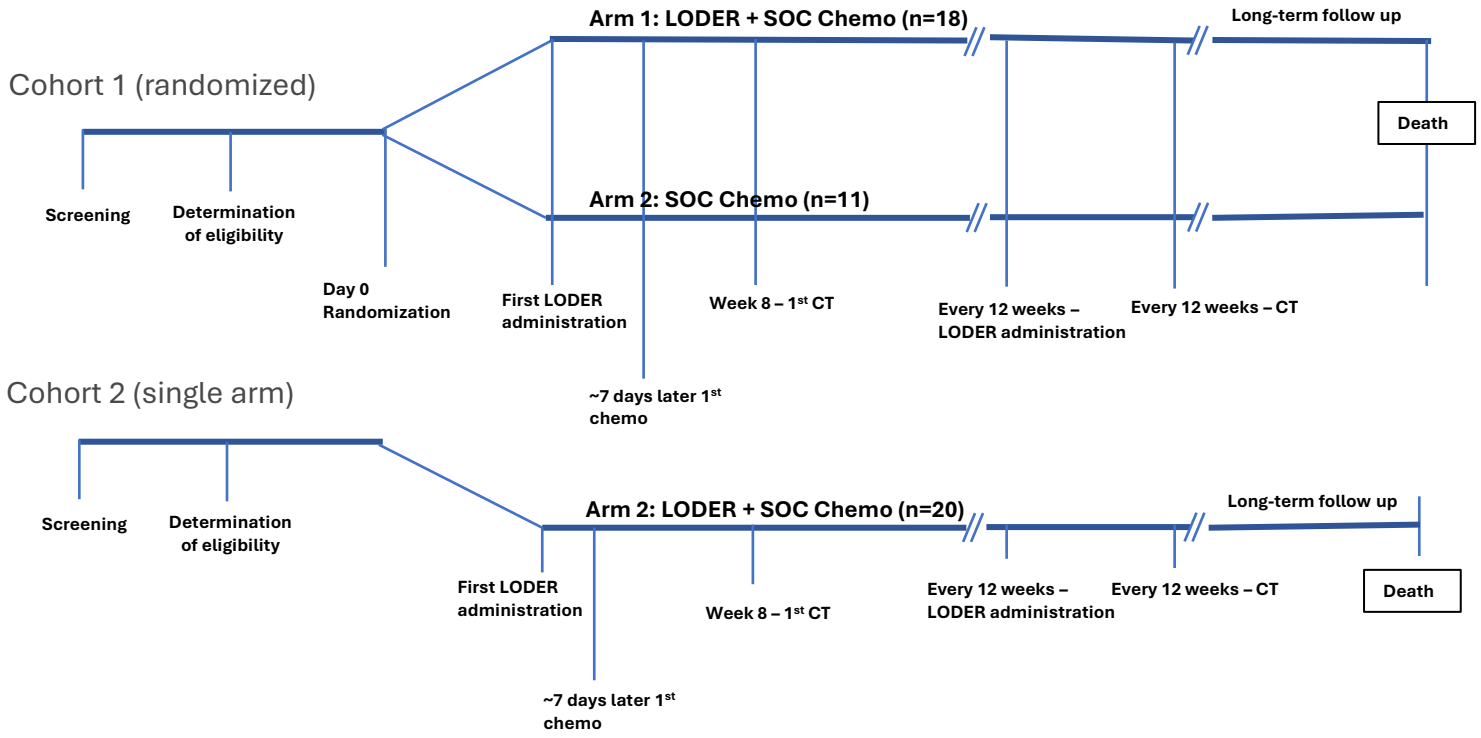
LODER

Phase 2 Trial Data

Silexion Therapeutics

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

SoC=standard of care.

Baseline Characteristics and Cohorts Information

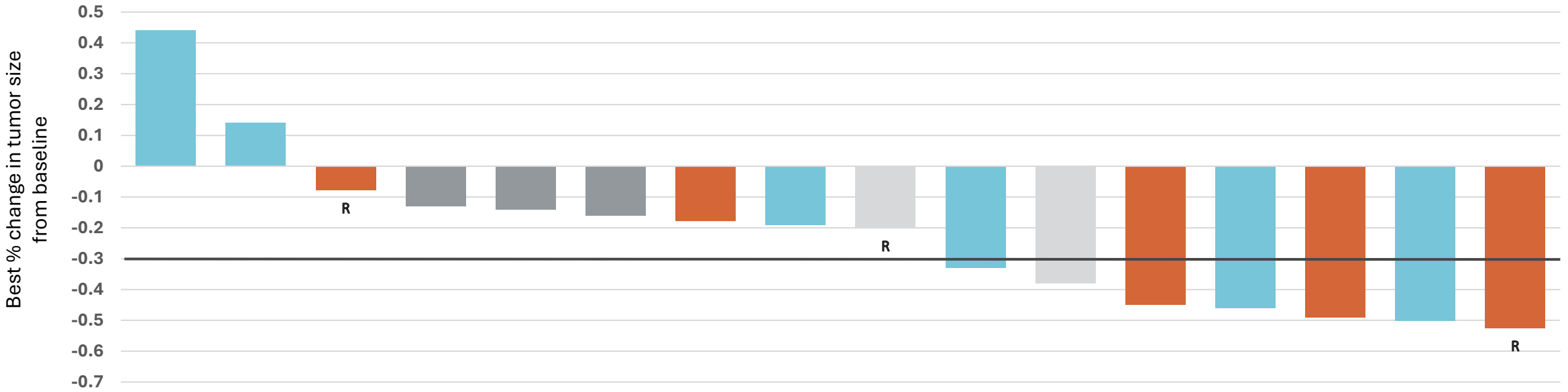
	Cohort 1 (n=29)	Cohort 2 (n=20)
Design/Arms	Randomized, controlled (SoC)	Single arm
Population	Locally advanced PC (LAPC)	Non-resectable (BRPC+ LAPC)
Nationality	62% U.S. (4 sites) , 38% Israel (5 sites)	
Male/ Female %	42% male; 58% female	
Median age (years)	69.7	64.9
KRAS Mutations	G12D/V*: Loder 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.

BRPC=borderline resectable pancreatic cancer; GnP=gemcitabine/nab-paclitaxel; LAPC=locally advanced pancreatic cancer; SoC=standard-of-care.
*KRAS mutations were determined in 31 patients in total. In cohort 1, 12 patients in the treatment arm and 10 patients in the control arm were tested; in cohort 1, 9 patients were tested.

Silexion Therapeutics

Loder Treatment Led to Robust Objective Response Rate in Cohort 1 Patients with LAPC Harboring G12D/V Mutations*



G12D G12V

Chemo:

Loder:

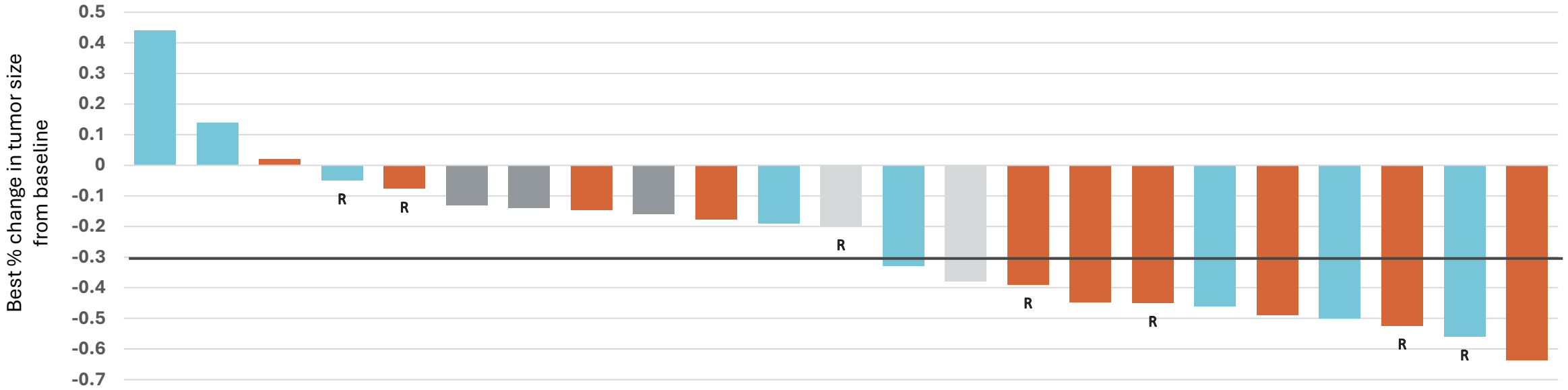
R = Non-resectable tumor becomes resectable

	LODER+Chemo	Chemo
% Response	55 (6/11)	20 (1/5)
% Response+ becoming resectable	64	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.

Silexion Therapeutics

Loder Treatment Led to Robust Objective Response Rate in Cohort 1+2 Patients with LAPC Harboring G12D/V Mutations*



G12D G12V

Chemo:

Loder:

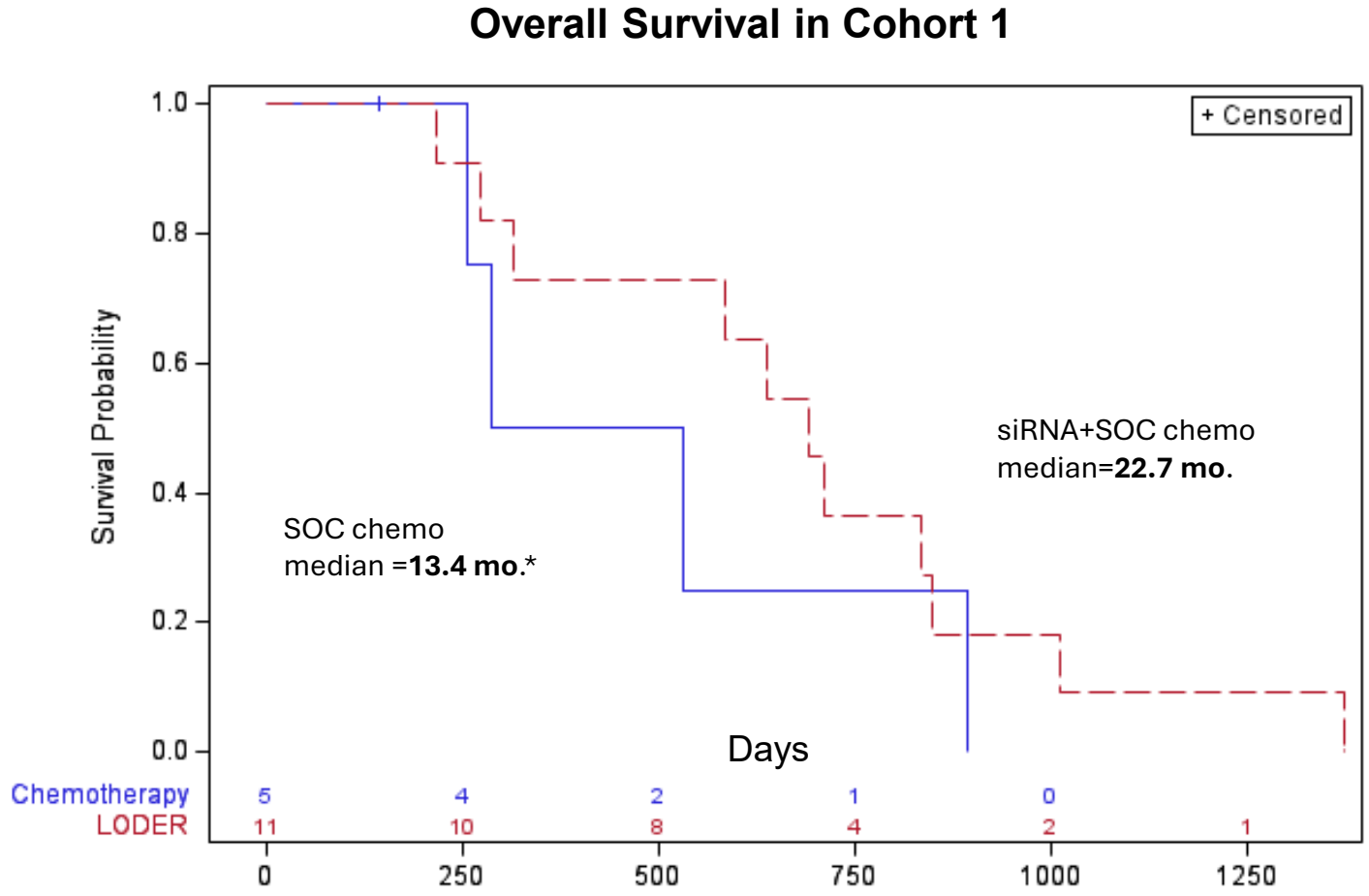
R = Non-resectable tumor becomes resectable

	LODER+Chemo	Chemo
% Response	56 (10/18)	20 (1/5)
% Response+ becoming resectable	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.

Silexion Therapeutics

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



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

* SoC (Control) OS consistent with recent trials for LAPC (Gemenetzis G, et al. *Ann Surg*. 2019;270(2):340-347).

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)

	LODER + SOC chemo (n=38)	
SAE	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%)

Silexion Therapeutics

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

Formulation for better delivery

siRNA:

- Enhanced stability
- Broadening activity

Building upon the Loder results, we optimized:

Silexion Therapeutics

SIL-204

KRAS G12D/V and KRAS amplification siRNA formulation

Silexion Therapeutics

Leveraging Loder Clinical Data to Further Improve SIL-204 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	<1 hr	> 48 hrs
Access to tumor cell site of action	No hydrophobic lead	Added hydrophobic lead to increase siRNA access into cell
Extended-release profile	PLGA depot rods	PLGA microparticles suspension for better continuous 3-month release
Route and Ease of administration	EUS-endoscopy* with larger needle; Required loading device	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

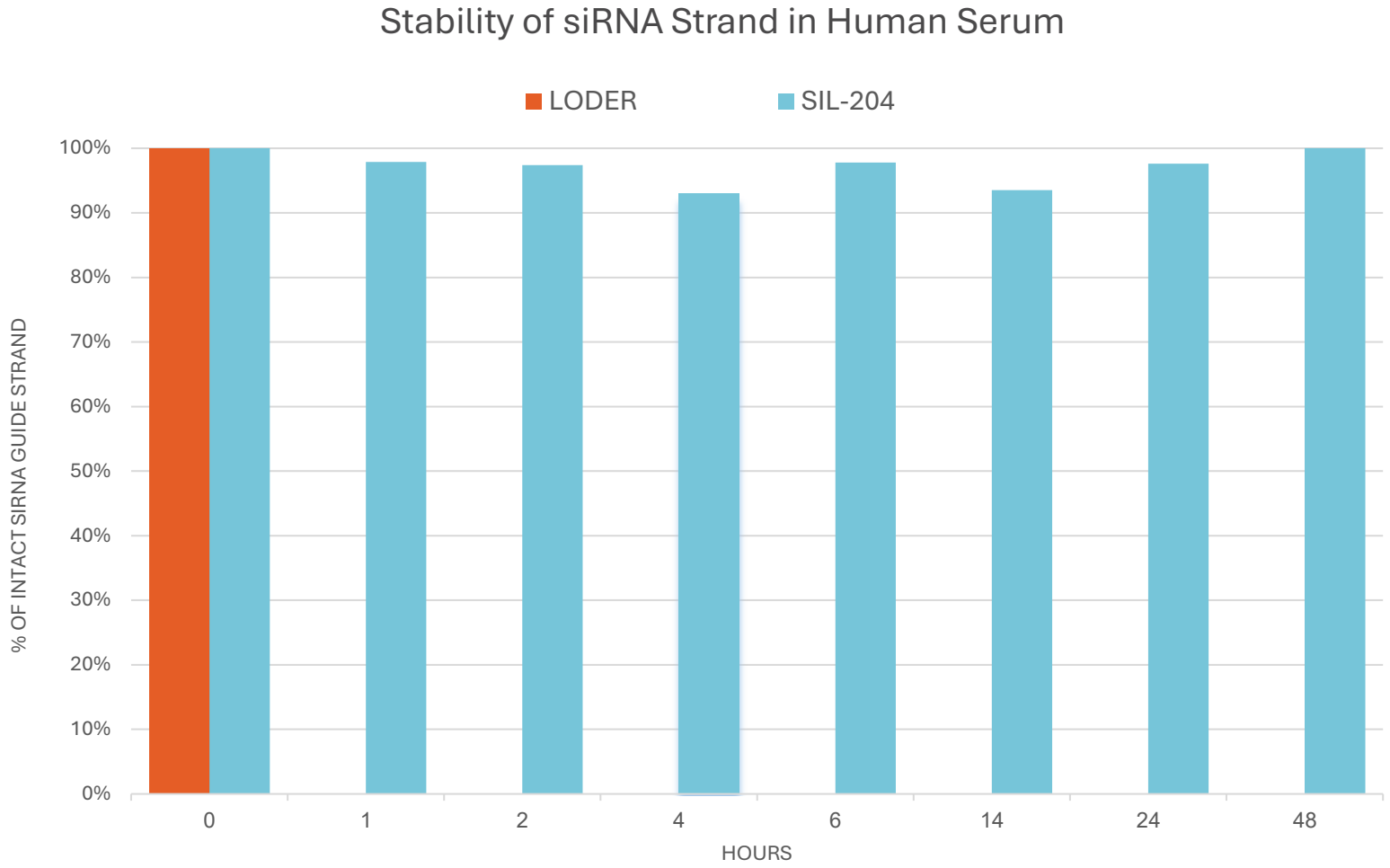
HR=Hazard Ratio.

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

Silexion Therapeutics

SIL-204 is Stable In Vitro for Over 48 Hours in Human Serum

siRNA strand placed in human serum and tested for stability



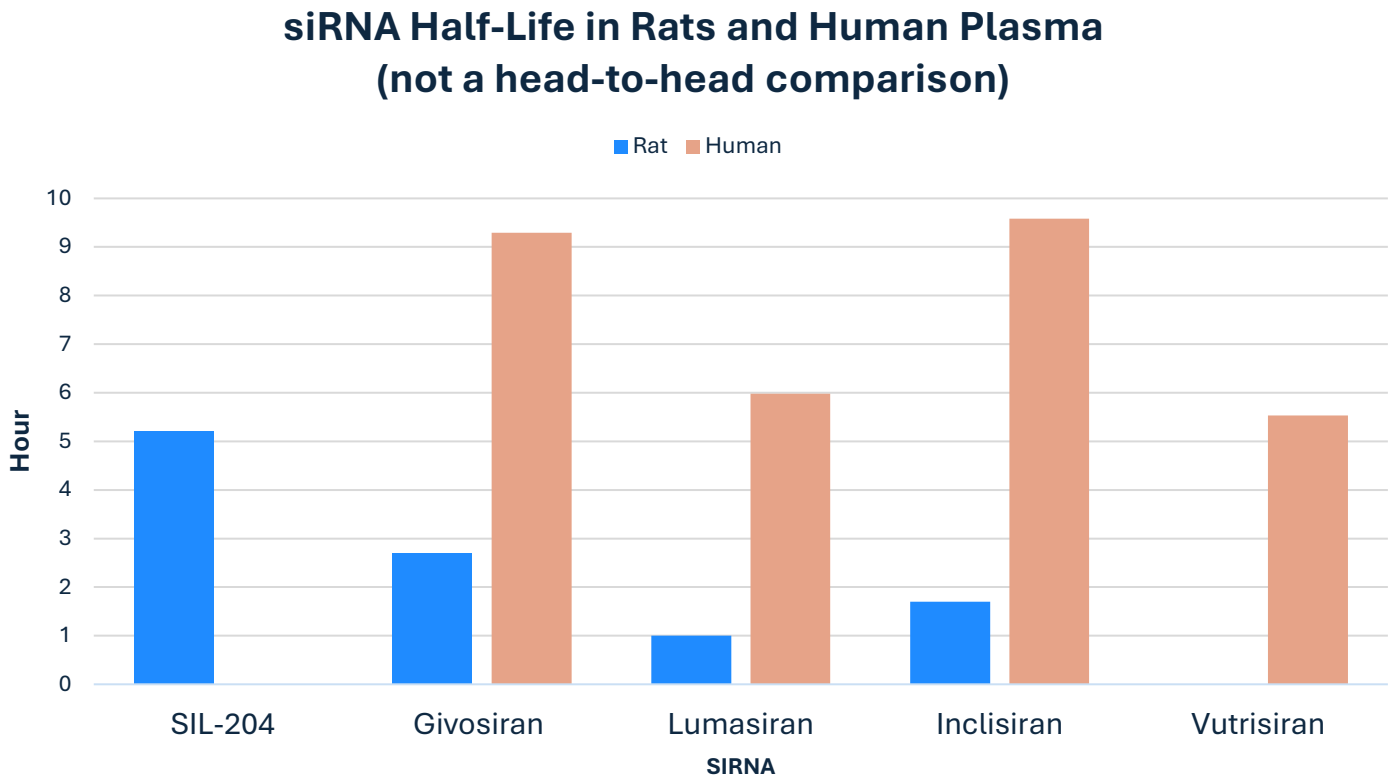
Previous studies have shown siG12D (Loder) half-life to be 5 min in human serum.

Potentially longer effectiveness of siRNA

Greater ability to diffuse throughout the fibrous tumor environment

Potential in other indications

Stability Studies Suggest SIL-204 is Considerably More Stable than all the siRNAs on the Market



1. Givlaari (givorisan). EMA. 2. Alnylam. Givosiran NDA MULTI-D SCIPLINE REVIEW. 3. Lumasiran. Review (fda.gov). 4. Lumasiran. Leqvio, INN-inclisiran (europa.eu) . 5. Inclisiran. Leqvio, INN-inclisiran (europa.eu). 6. Inclisiran EMA Assessment Report. 7. Vutrisiran. FDA Review Summary. 8. EMA/FDA Approved siRNA Drugs: ADME Study Overview and Data Interpretation.
siRNAs administered sub-cutaneously. Data on the half-life of Vultisiran in rodents was not available from online sources

SIL-204 Shows Broad Inhibition Across Human KRAS Mutations at Sub-Nanomolar Concentrations

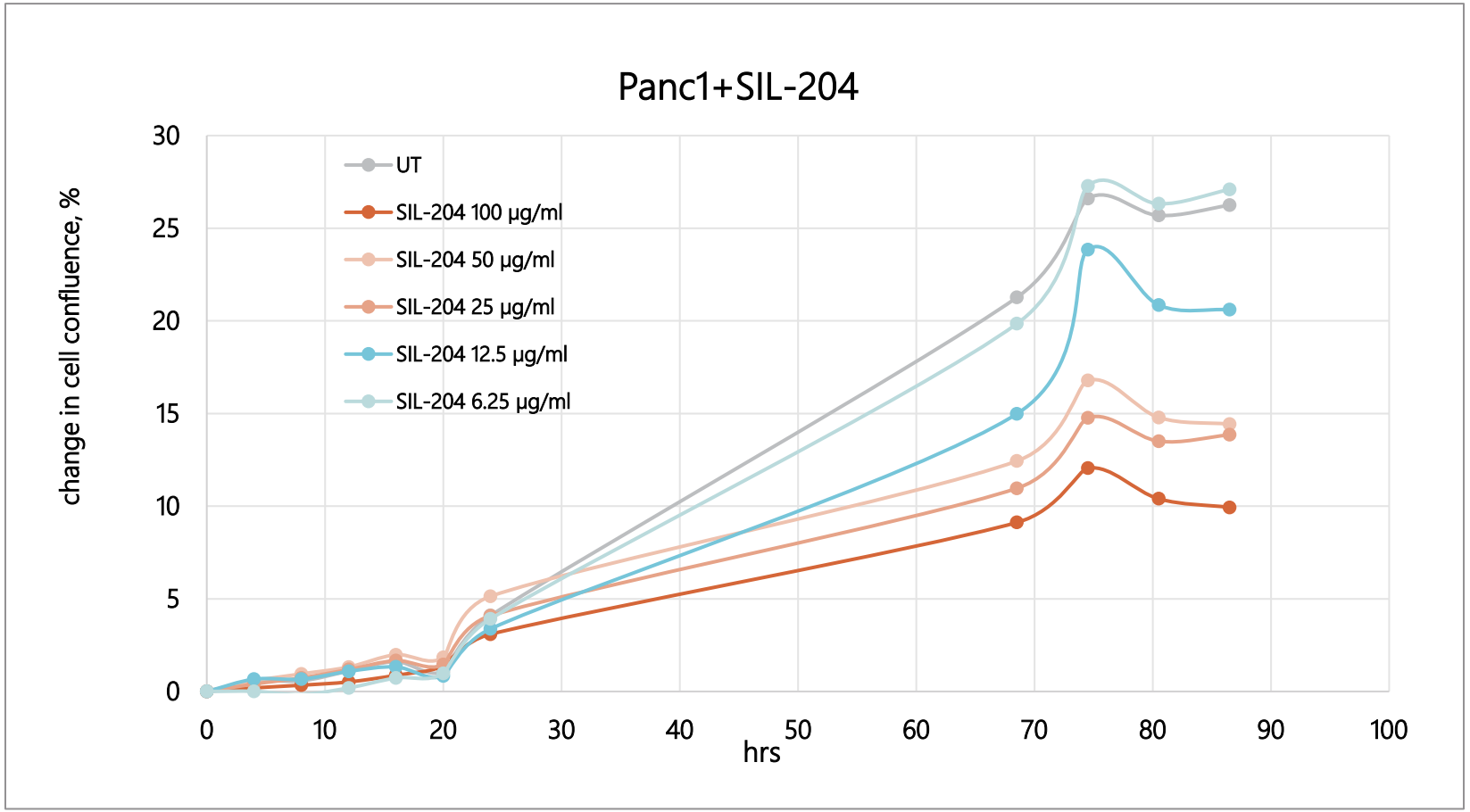
SIL-204 maintains and expands the silencing activity of the Loder

Model is a co-transfection setup 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

IC_{50}=half-maximal inhibitory concentration.
*G13D and Q61H tested in separate studies from the G12 mutations and wild type (non-mutated).

SIL-204 Robustly Inhibits Growth of Human Pancreatic Tumor Cell Line (Panc-1) in Dose-Dependent Manner

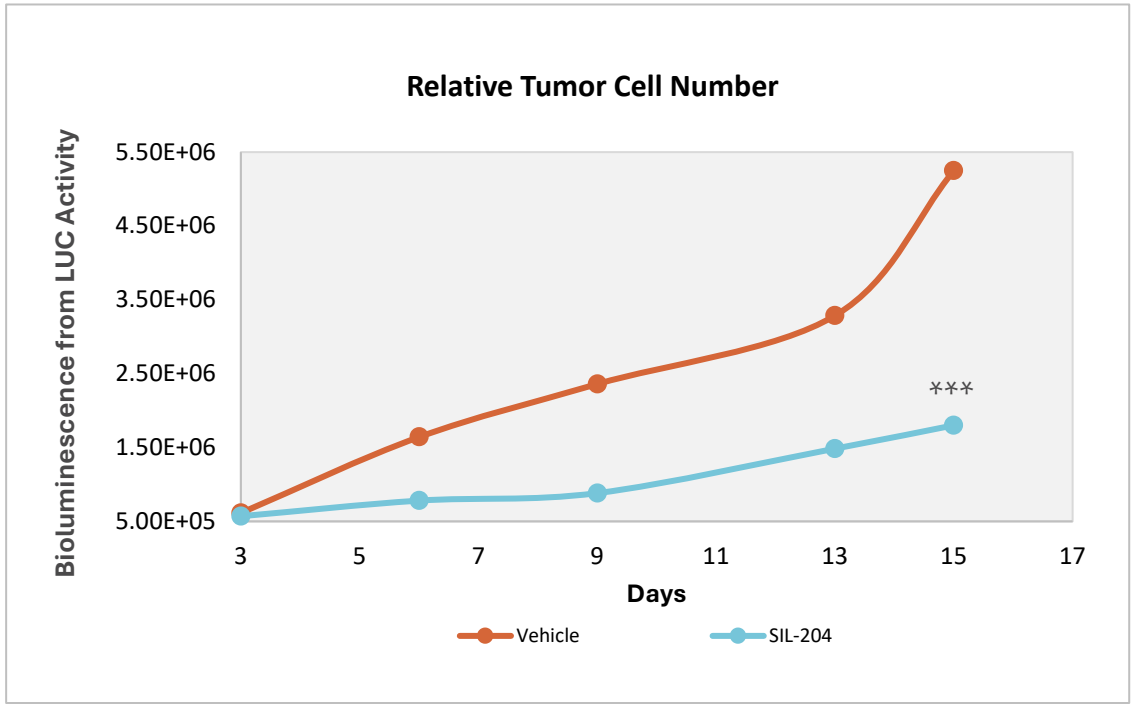


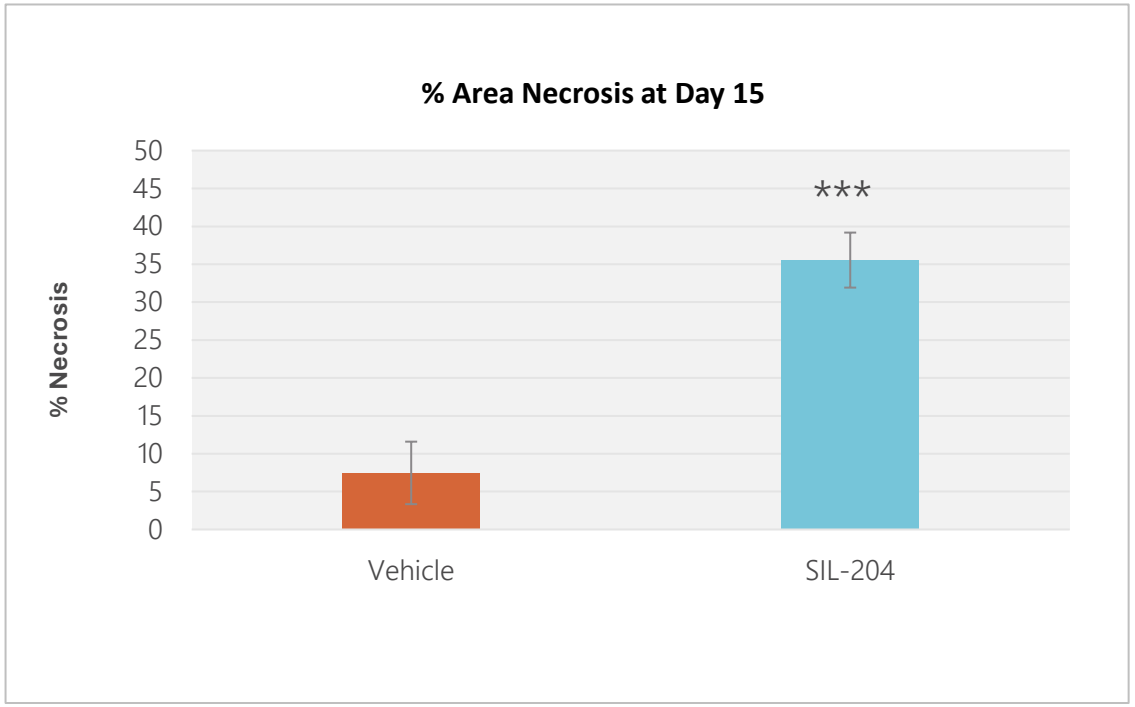
UT=untreated.

SIL-204 Inhibited Human Pancreatic Cancer Xenograft Growth in Mice

SIL-204 significantly reduced tumor volume and growth while increasing the necrosis (cell death) within the tumor

Day 1: Capan-1 (G12V) luciferase cells were xenografted to mice (s.c.) concurrently with SIL-204 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



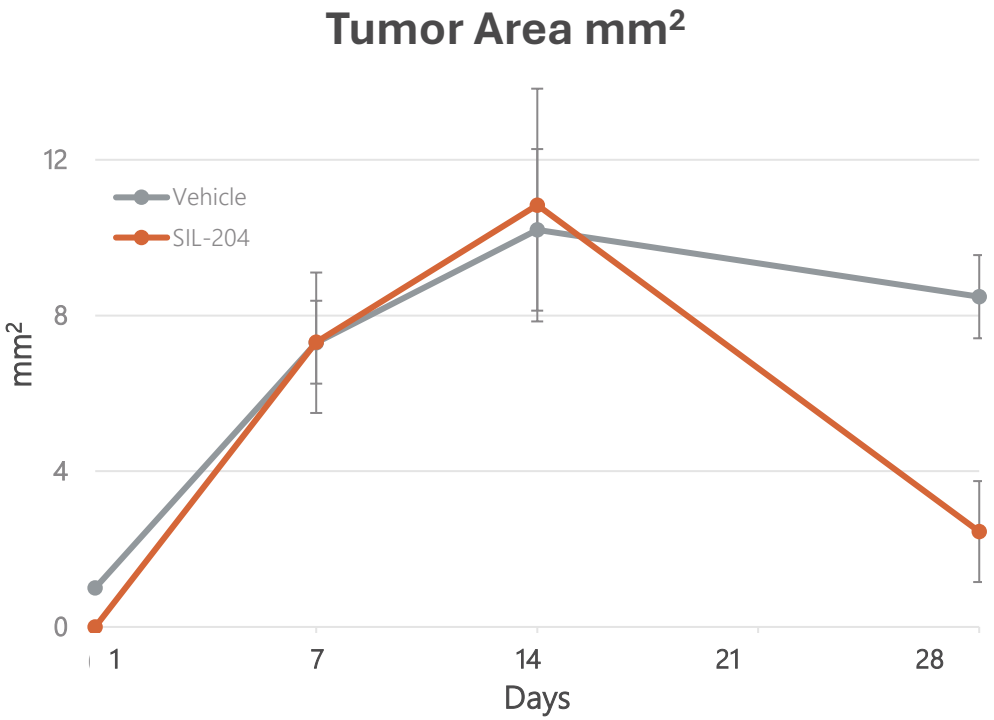


***p<0.0005
S.C. = sub cutaneous.

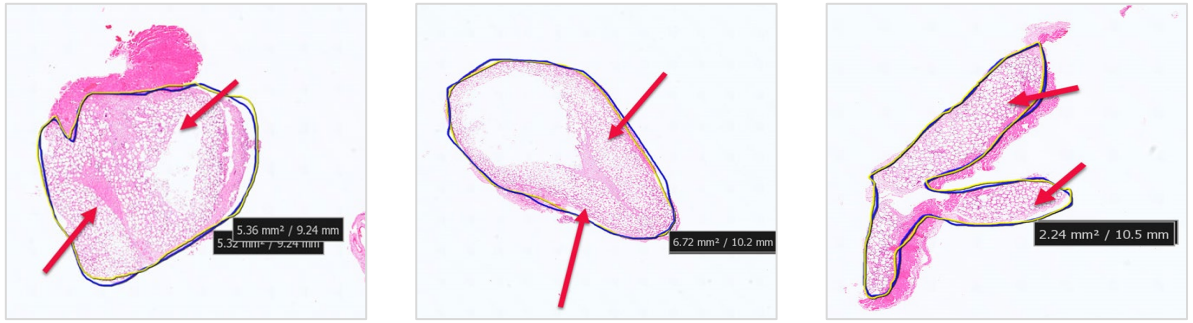
SIL204-MP Inhibited Human Pancreatic Cancer Xenograft Growth in Mice

SIL-204 significantly reduced tumor area and increased tumor necrosis

~Day -7: Panc-1(G12D mutation) cells were xenografted to mice (s.c.) and grown to ~200mm^3
Day 1: SIL-204-MPs or PBS (phosphate buffer Saline) was injected sub-cutaneous into animals
Day 30: Tumors were dissected, and histological slices from the center of the tumor taken and analyzed for necrosis



After 4 weeks 50% of Panc-1 tumors showed complete necrosis

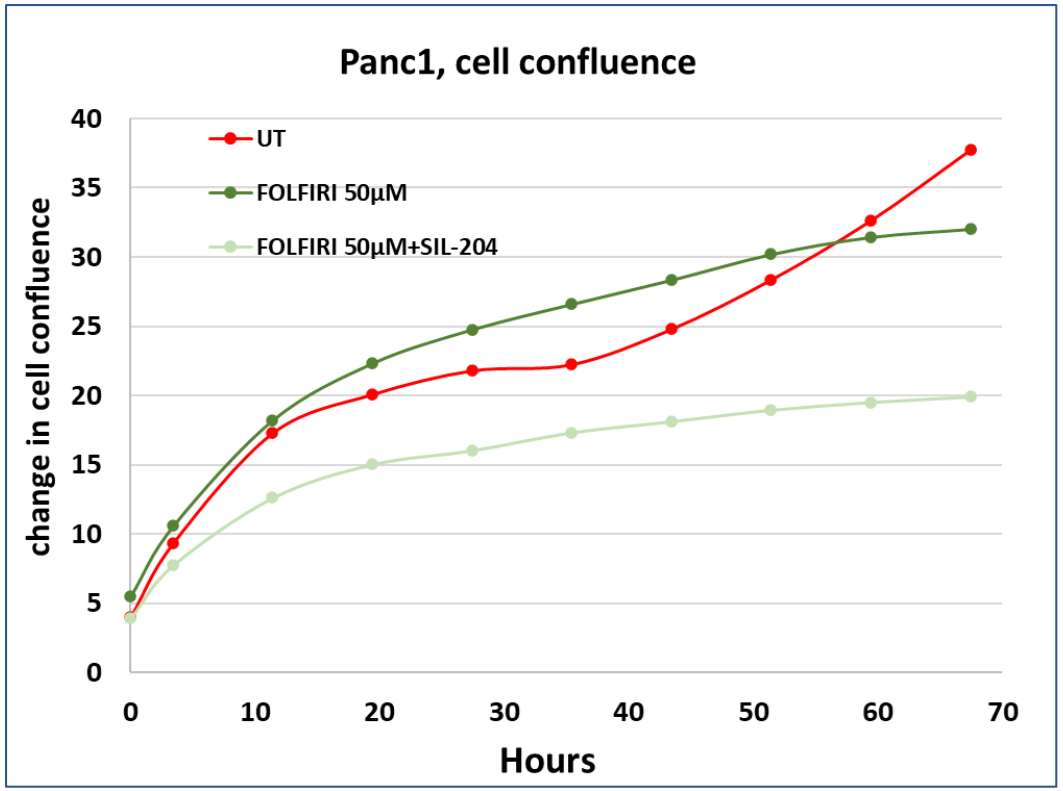


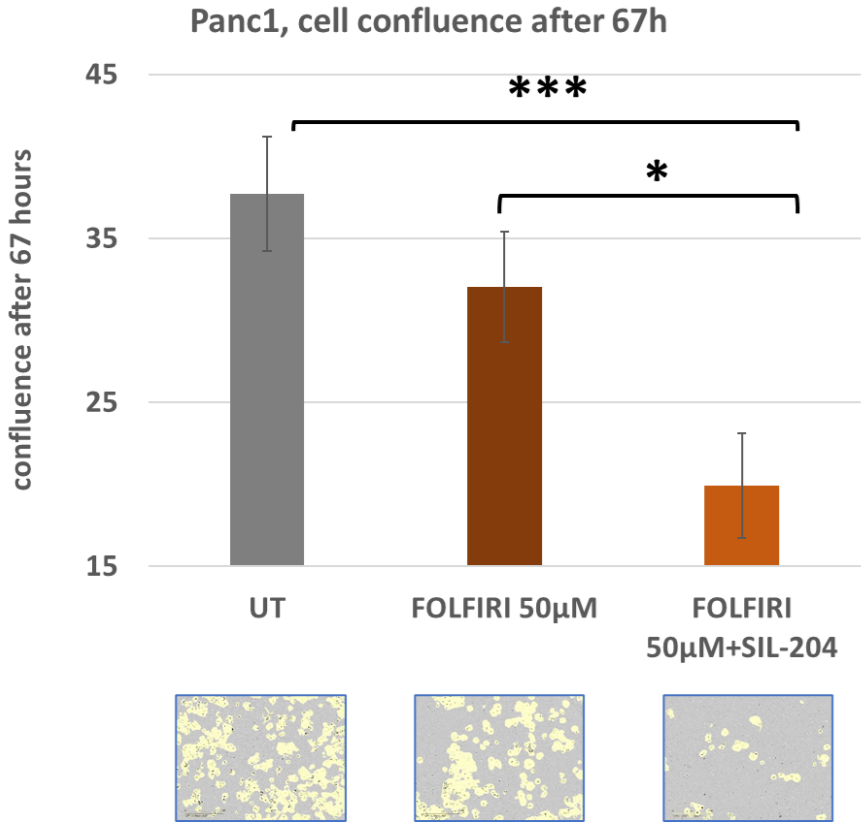
SIL204-MP = microparticle formulated SIL-204.

Silexion Therapeutics

SIL-204 Behaves Synergistically with Fluorouracil and Irinotecan-Containing Chemotherapy

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





*p<0.05; ** p<0.005; ***p<0.0005

SIL-204 Development Strategy in LAPC

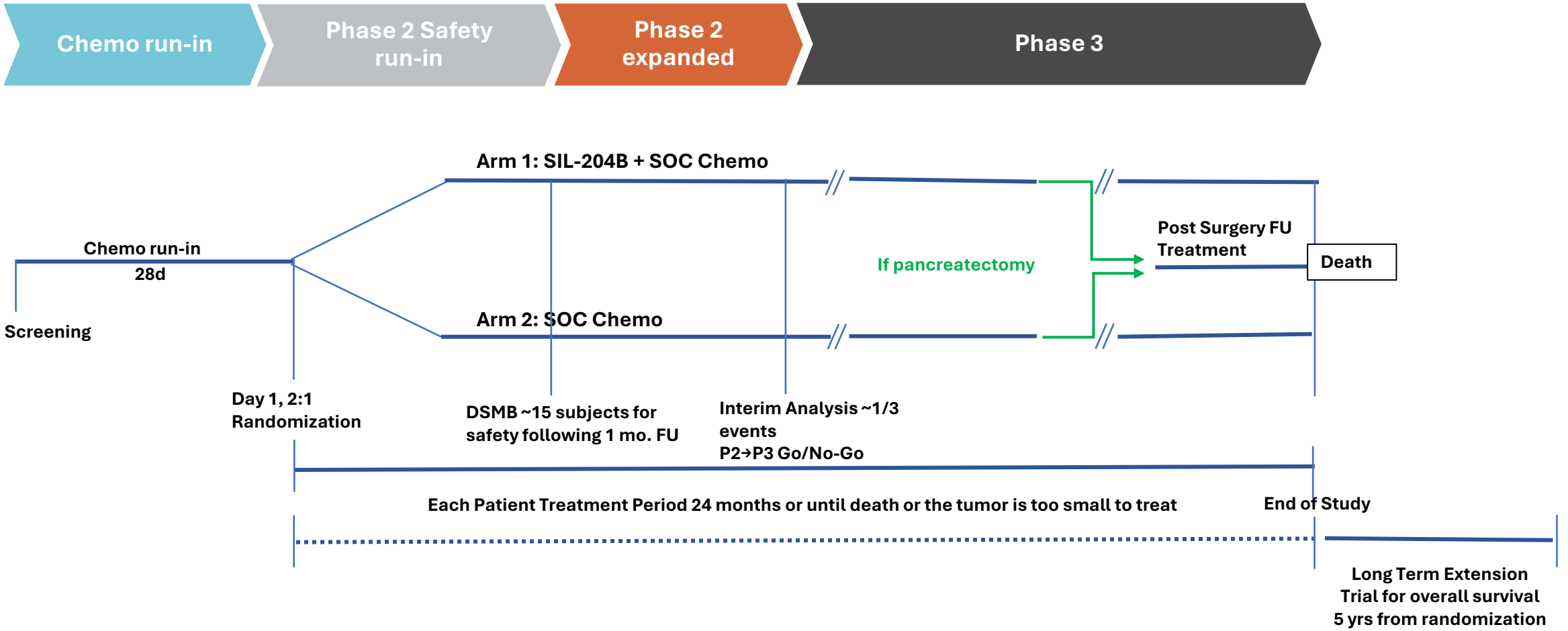
2023	2024	H1 2025	H2 2025	H1 2026	H2 2026
Clinical proof of concept for Loder in LAPC in an approvable endpoint for FDA	Optimization of siRNA on various fronts; selection of SIL-204 with new extended-release formulation Received guidance on trial design from the German Federal Institute for Drugs and Medical Devices (BfArM), intratumor administration	• Initiate toxicology studies SIL-204 • GMP production API (SIL-204) • GMP production injectable formulation Meeting with German authorities for regulatory buy-in (BfArM) Integrated Regimen	• GMP production MP formulation	Initiate Phase 2/3, LAPC Germany/Israel Submit CTA in E.U. for Phase 2/3	• 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.

Silexion Therapeutics

Phase 2/3 Trial of SIL-204 in LAPC: Study Design

Received positive guidance from German regulatory agency on suggested trial design



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 SIL-204.
Current Focus: Optimized siRNA formulation and extended-release delivery								
SIL-204 (Intratumor) KRAS G12D/V + KRAS amplify formulation and extended-release delivery	Locally advanced pancreatic cancer	Adjunct to chemotherapy						H2 2025: CTA submission in E.U. for Phase 2/3 1H 2026: Initiate Phase 2/3
	Colorectal cancer	Adjunct to chemotherapy						H2 2025: Initiate preclinical
SIL-204 (Systemic Adjunct) KRAS G12D/V + KRAS amplify formulation	Locally advanced pancreatic cancer	Adjunct to chemotherapy						Preclinical studies initiated

CTA=clinical trial application; SOC=standard of care.

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

Milind Javle, MD
The University of Texas & MD Anderson Cancer Center, Houston, TX
Professor, Department of Gastrointestinal (GI) Medical Oncology, Division of Cancer Medicine

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Head, Sheba Pancreatic Cancer Center - SPCC

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

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The University of Texas & MD Anderson Cancer Center, Houston, TX
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Andrew M. Lowy, MD
UC San Diego, San Diego, CA
Chief, Division of Surgical Oncology; Professor of Surgery

Mark A. Schattner, MD
Memorial Sloan Kettering, NY, NY
Chief, Gastroenterology, Hepatology and Nutrition Service

Silexion Therapeutics

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

> 25 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

Ilan Levin, Director

Former Chairman & Chief Executive Officer of Moringa Acquisition Corp with 25 years of experience as an executive and venture capital/private equity investor in high-tech, Israel-related ventures

Investment Highlights

Advanced RNA therapeutic candidate in oncology

- Clinical-stage company with proprietary oncogene siRNA platform
- Intratumor siRNA delivery for pancreatic cancer allow for better drug exposure compared with systemic KRAS inhibitors
- Phase 2 clinical trial with Loder in LAPC showed 9.3 months improvement in the FDA approvable endpoint of overall survival
- Lead Candidate SIL-204 with enhanced siRNA stability, and a better extended-release profile

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 SIL-204 in 1H 2026
- Plan for U.S. IND submission with clinical safety data from limited number of patients the trial in E.U.

Strong Partnerships with Solid IP Portfolio

- Established partnerships for GMP production of siRNA and delivery system
- PCT submitted with favorable international review for claims for siRNA composition of matter and use and microparticles, IP exclusivity through December 2043 plus extension

CTA=clinical trial application; IND=investigational new drug.

Silexion Therapeutics

Thank You

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