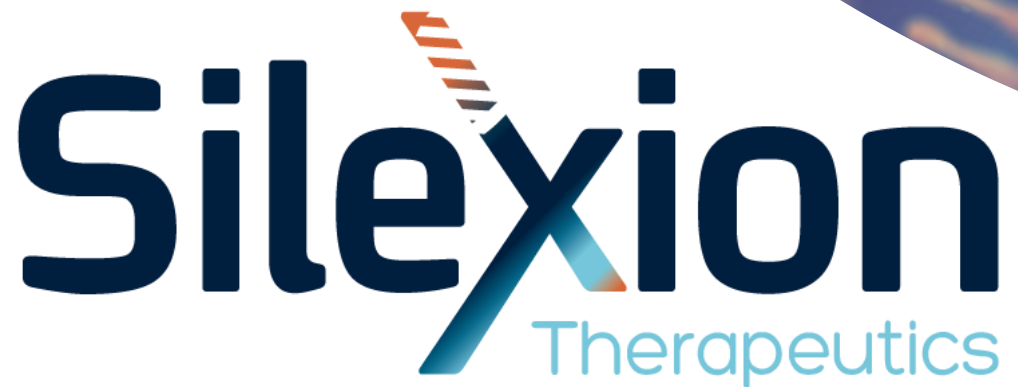




Silencing Oncogenes at the Level of Gene Expression

August 2026
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.

Shoot the Messenger Stop Cancer

Mutated KRAS Proteins Drive
Aggressive Cancers

Silexion Develops RNA Silencing Treatments
that Abolish KRAS Expression designed to be the most
efficacious product for KRAS-driven locally advanced
Tumors (PDAC, CRC, NSCL) with meaningful improvement
in safety over Pan-RAS inhibitors

Currently investigated in Phase 2/3 clinical program
initiated July 2026

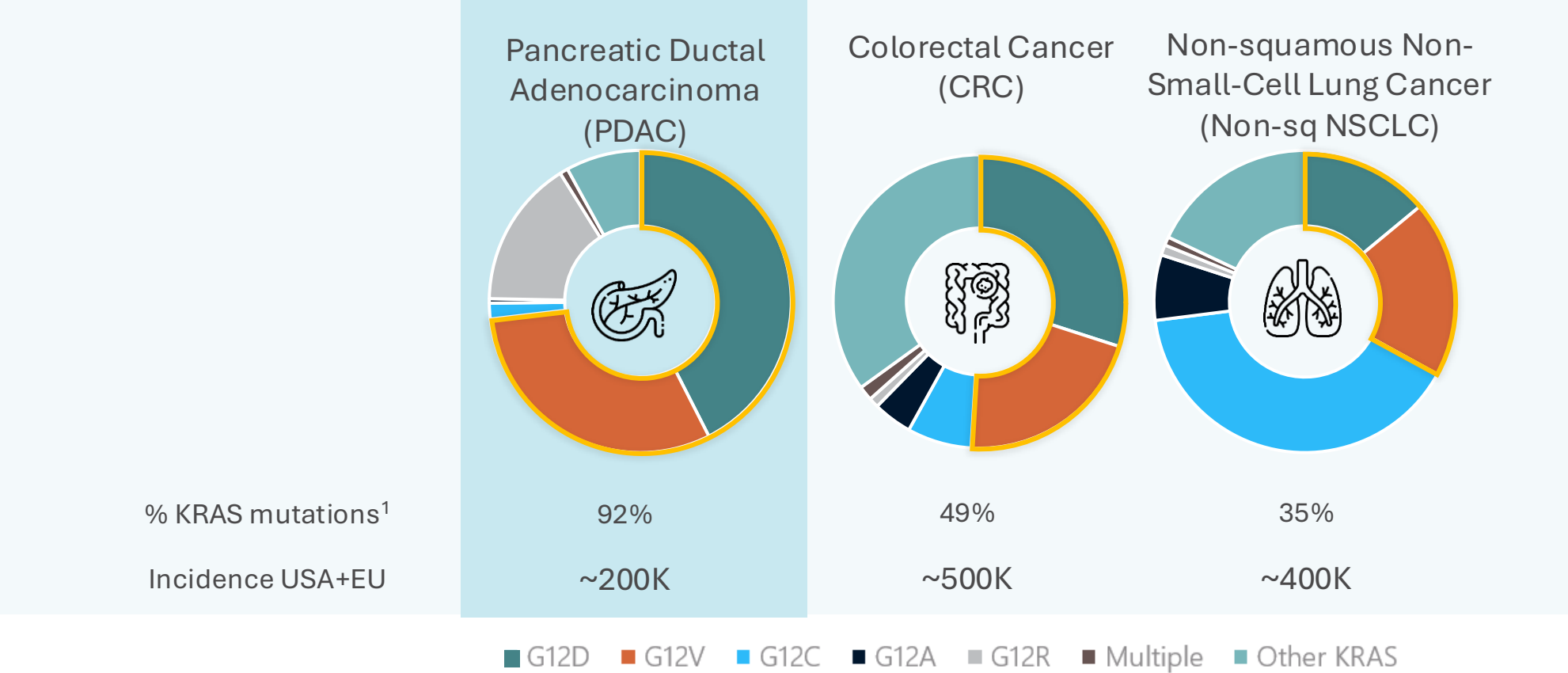
First generation product showed
KRAS silencing potential but
highlighted delivery limitation

Second generation product
(SIL204) designed for enhanced
cellular delivery, better stability,
and broader antitumor activity

Phase 2/3 clinical program
initiated, investigating dual-
delivery strategy targeting both
primary lesion and metastases

KRAS Mutations are Highly Prevalent Drivers Across Major Solid Tumors

High mutation rates spanning cancer types and KRAS variants



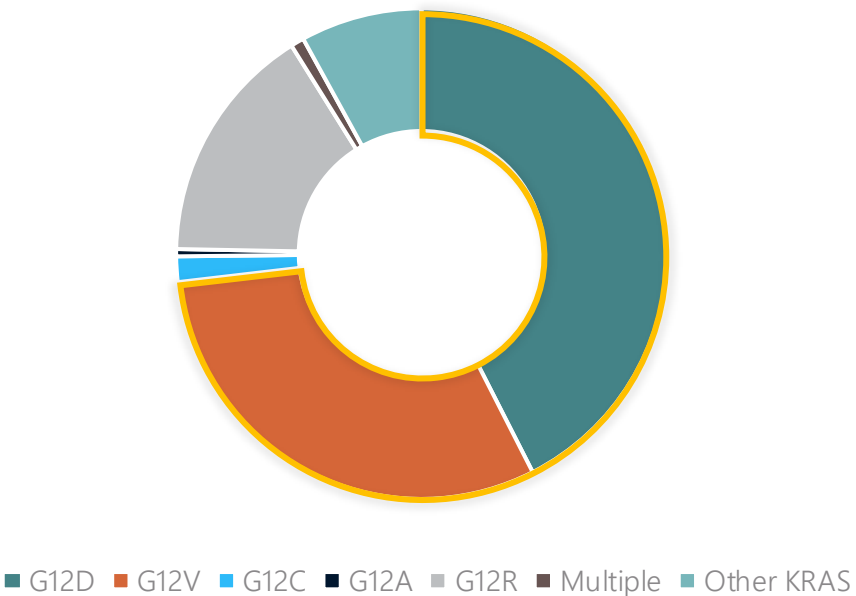
PDAC: 3rd leading cause of cancer deaths today in the U.S.², 2nd leading cause by 2030²

1. Lee, J.K, et al. NPJ Precis Oncol. 2022;6(1):91.; 2. Hirshberg Foundation for Pancreatic Cancer Research. Pancreatic cancer Facts. <https://pancreatic.org/pancreatic-cancer/pancreatic-cancer-facts>.

SIL204: Leading siRNA Program with Significant Market Opportunity

KRAS mutations are present in ~92% pancreatic cancer cases¹

SIL204 targets > 74% of KRAS mutations in PDAC²
Current KRAS G12C therapies address only ~1.5%



Total Addressable Market in Localized Advanced
Pancreatic Cancer

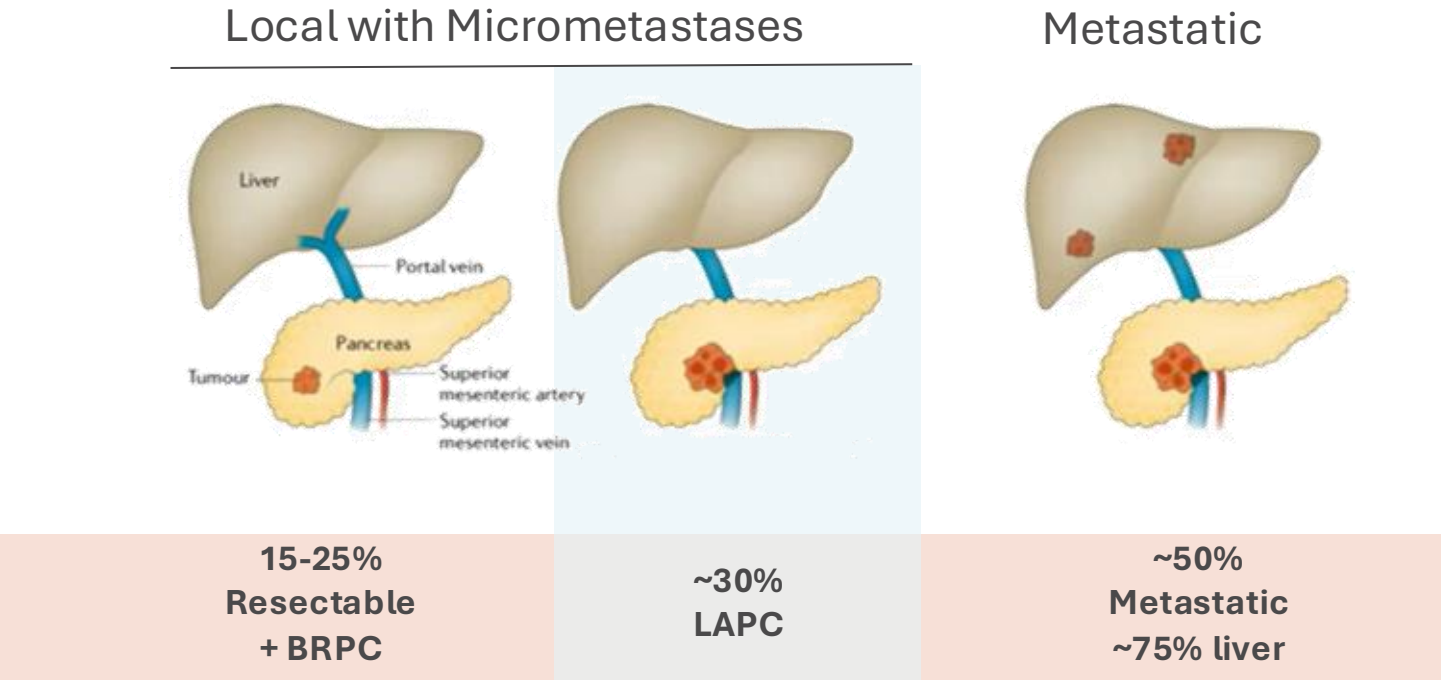


	U.S.	E.U.
Annual pancreatic cancer cases	66,400 ⁴	146,477 ³
KRAS-G12D/V mutated LAPC incidence*	~16,000	~35,000

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.* 2024;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>.

Pancreatic Cancer is Often Systemic Before Visible Metastases Appear

Therapy must address undetectable micrometastatic disease as well as the primary tumor



Pancreatic Cancer Remains a High Medical Need Despite RAS Inhibitors

- Overall 5-year survival one of poorest U.S 12.8% ¹ , KRAS G12D/V worst survival
- Resectable PC- Following surgery with perioperative chemotherapy, ~80% have metastases in 1 yr ²
- Median survival LAPC 14-17mo. ^{3,4}
- New small molecule RAS inhibitors efficacy promising and safety acceptable, but large gaps remain before the market is satisfied⁵
 - Severe or medically significant toxicities that typically requires active medical management and often hospitalization often include: Rash; fatigue; diarrhea; anemia; mucositis; decreased neutrophils

There are no effective treatment options for
our targeted indication LAPC

Silexion siRNA Silences KRAS at the Source

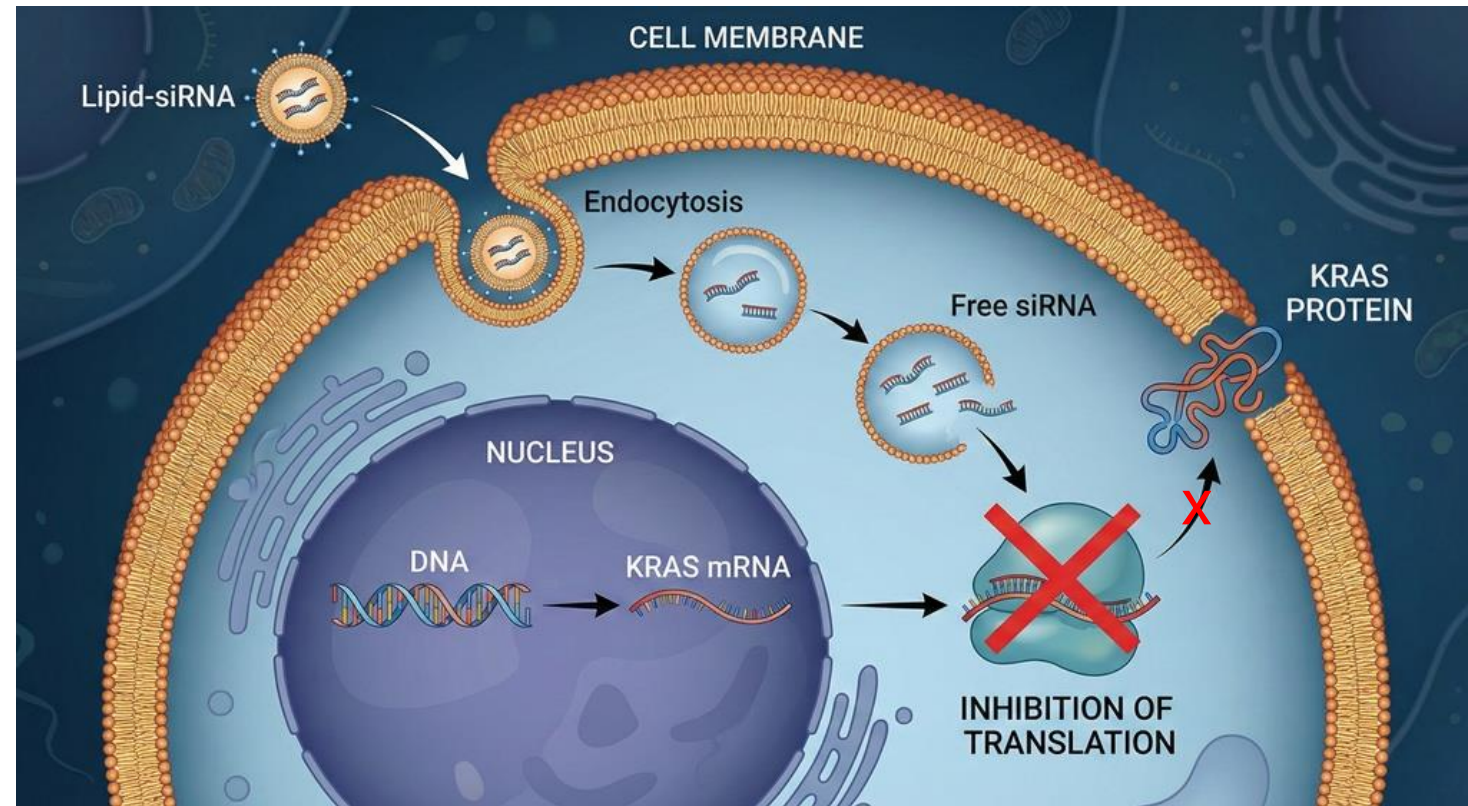
Designed to shut down oncogene expression rather than inhibit mutant KRAS protein

Lead Product: SIL204

First-in-class, isoform selective, stable, pan KRAS RNA silencer with delivery system targeting high LDL receptor expressing tumors and micrometastases

Targets both active and inactive forms of KRAS

Treating closer to the mechanism driving cancer presents a better chance to overcome treatment resistance



SIL204 Targets Both Primary Tumor and Metastases

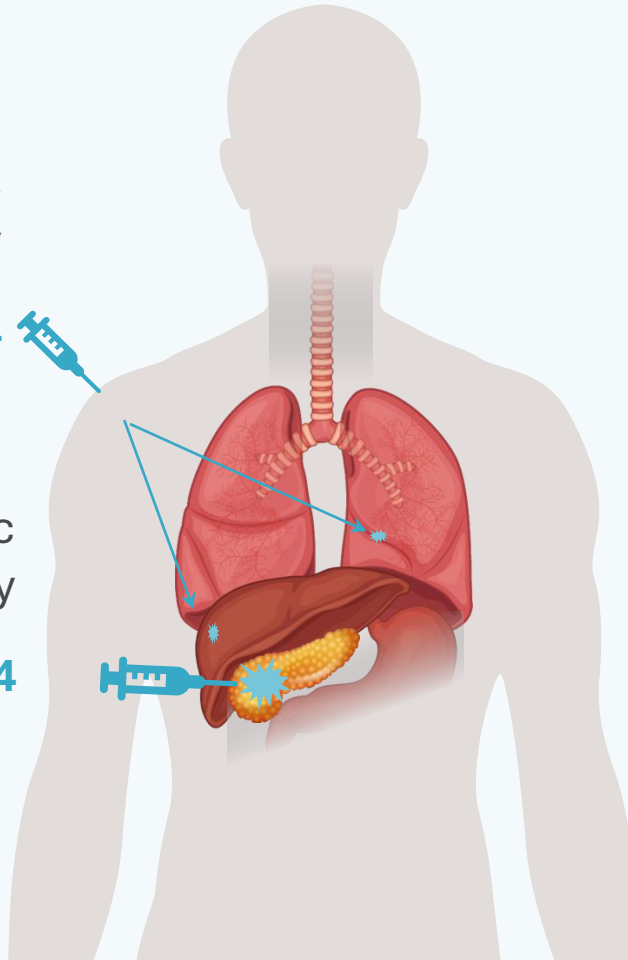
Combined intratumoral and systemic (subcutaneous) dosing controls primary tumor and metastatic spread

Micrometastatic invasions
into liver, lung targeted by

Systemic SIL204

Primary pancreatic
tumor targeted by

Intra-tumoral SIL204



Pancreatic cancer often spreads early,
before metastases are detectable

Systemic SIL204 targets
micrometastases

Intratumoral (endoscopic) SIL204
overcomes physical barrier of primary
tumor

Lipid conjugated siRNA targets high LDL
receptor expressing tumors and
micrometastases

SIL204 Combines KRAS Silencing with Dual Delivery Designed to target both primary tumors and micrometastatic disease

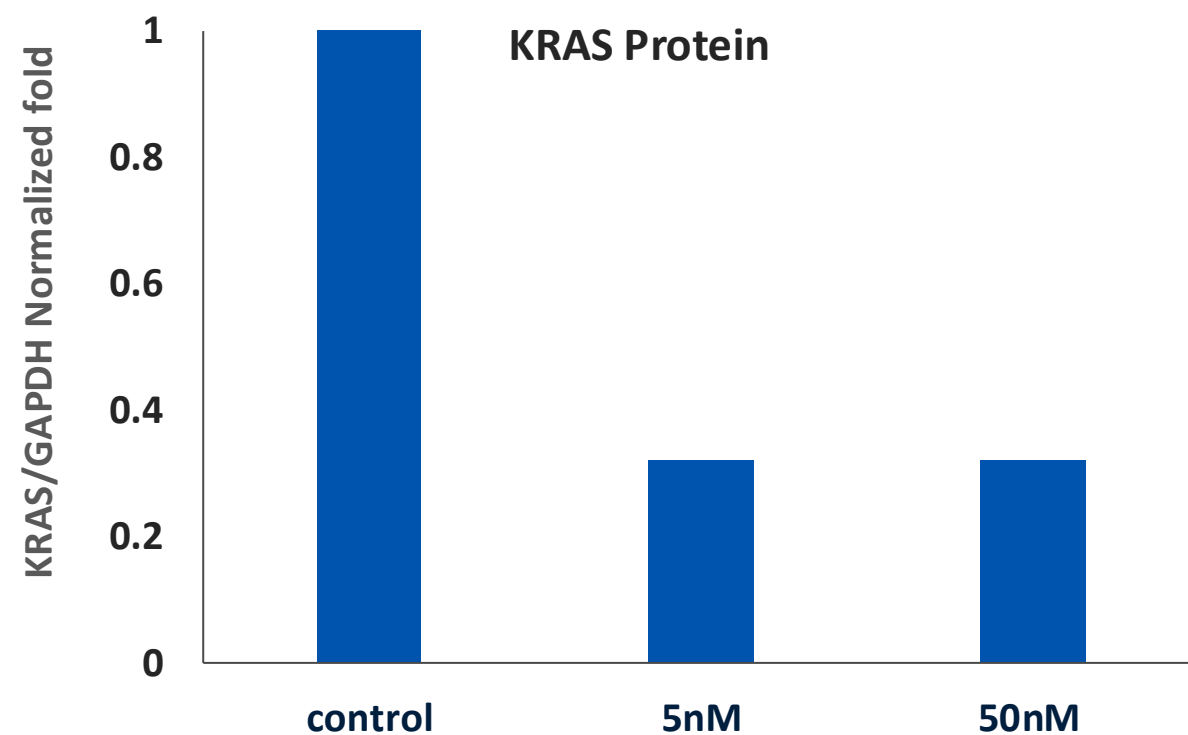
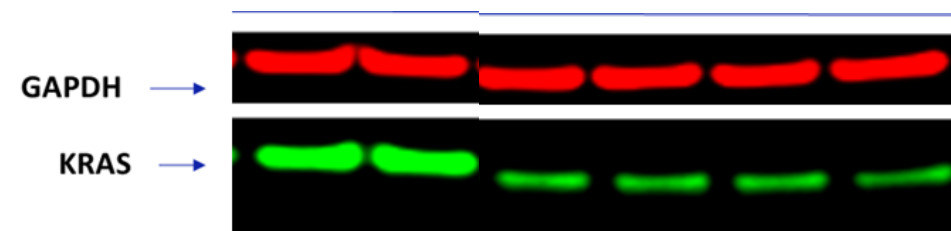
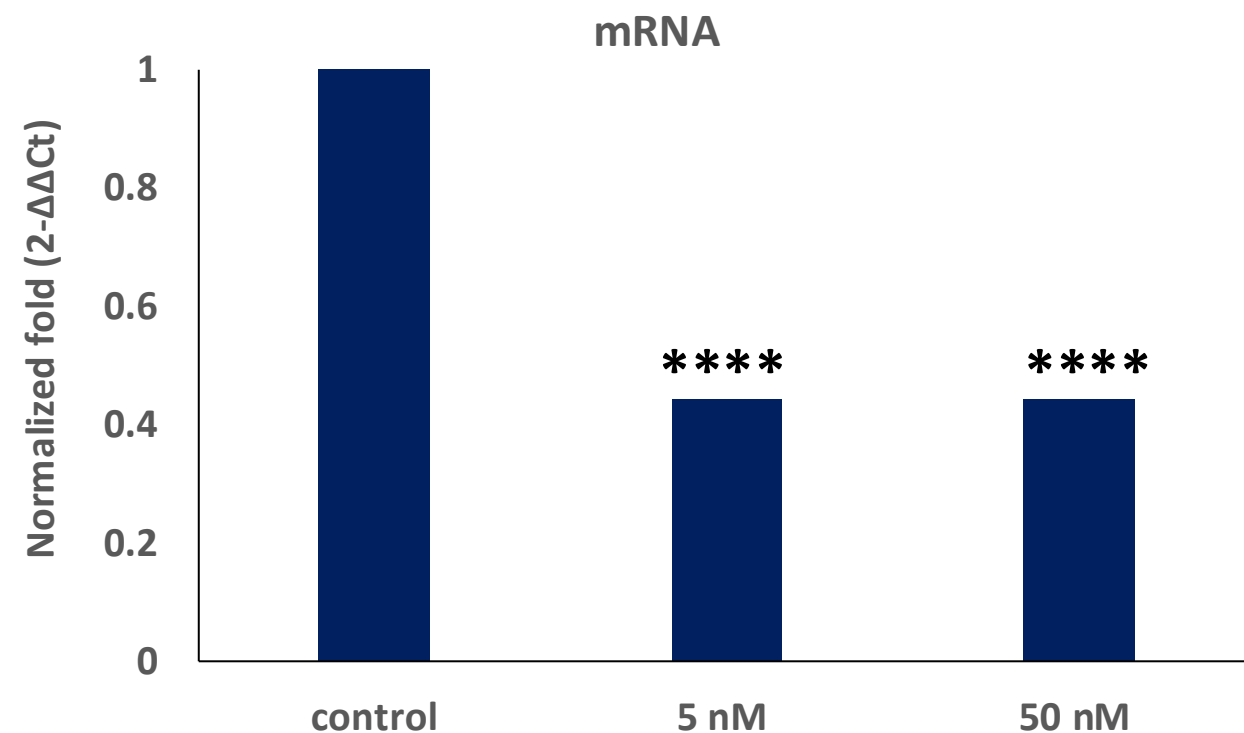
**Potentially the most
advanced gene silencing
oncology product in
clinical development**

- Enhanced delivery into cancer cells
- Better stability
- Broad antitumor activity

- Potential efficacy advantage from silencing KRAS upstream of inhibitors
- Potential safety advantage with KRAS-specific targeting and absent RAS off-target binding

- **Targets both primary tumor and metastatic disease**

SIL204 Silences KRAS RNA with Corresponding Reduced KRAS Protein



Transfection with lipofectamine
PK59 human tumor line G12D mutation
Analysis at 72 hrs for mRNA and protein
**** = p value < 0.0001

SIL204 Highly Effective with Broad Inhibition Across Human KRAS Mutations at Sub-nanomolar Concentrations

SIL204 maintains and expands the silencing activity of first generation 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).
Negative siRNA control collected over various studies

SIL204 Inhibits Growth of Multiple Mutant KRAS+ Human Tumor Cell Lines

Broad antitumor activity at clinically achievable concentrations

SIL204 inhibits proliferation across four human cancer cell lines (CTG assay)

Cell line KRAS mutation subtype	IC ₅₀ (ng/mL)	IC ₉₀ (nM)	IC ₉₀ (ng/mL)
A427 (Lung) G12D	537	70	1,079
PK59 (Panc) G12D	1,059	163	2,496
GP2D (Colon) G12D	445	56	852
HS766T (Panc) Q61H	476	124	1,907
AVG	613	103	1,583

Results confirm and extend prior pan-KRAS silencing observed in transfected hepa cells

Average growth inhibition across tumor lines:

IC₅₀ 613 ng/mL, 40 nM

IC₉₀ 1,583 ng/mL, 103 nM

In Silico Analysis Supports SIL204 Specificity for KRAS

Predicted binding to KRAS G12V with low predicted off-target activity against HRAS/NRAS

- **SIL204 binding to KRAS^{G12V} strong (-31.8 kcal/mole)**
- **No Off-Target Active Anti-sense Binding indicating low risk for side effects.**
- **No effect on regulatory RNAs**

Conclusions

- SIL-204 silences the intended target KRAS mutations, with low off-target risk for potential improved safety profile over existing RAS inhibitors
- HRAS and NRAS very unlikely affected, continuous endogenous RAS activity

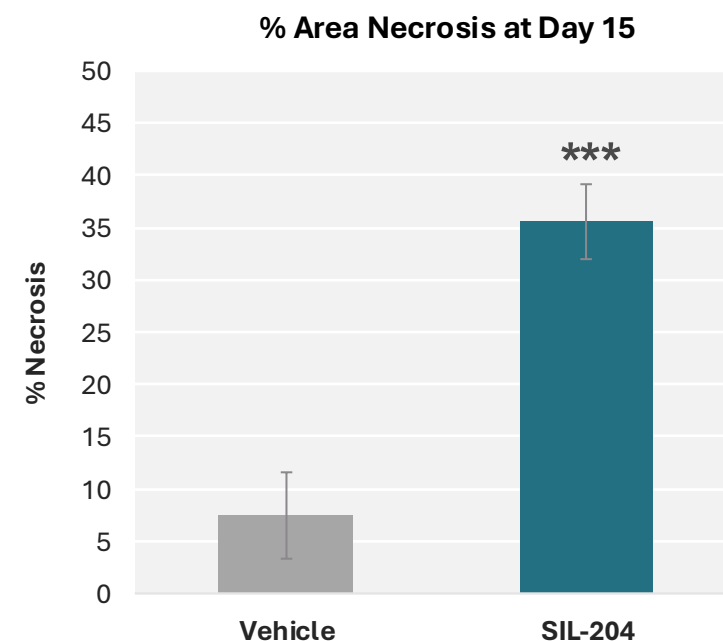
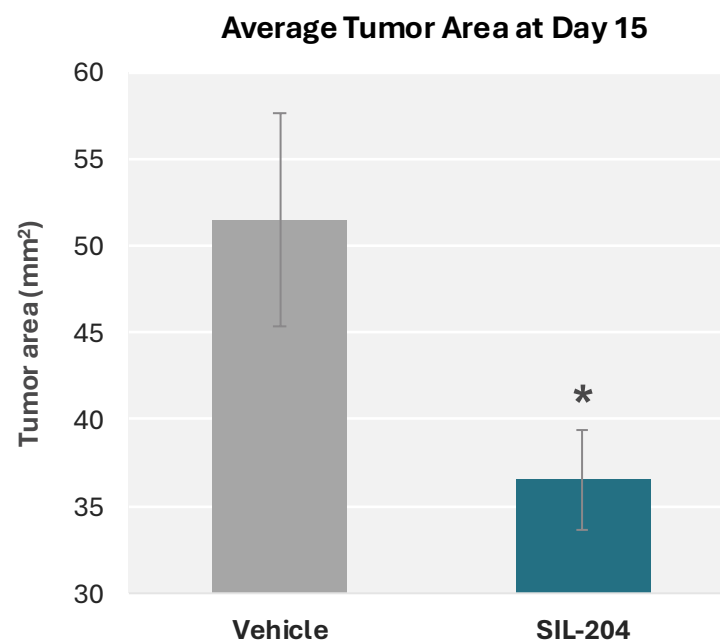
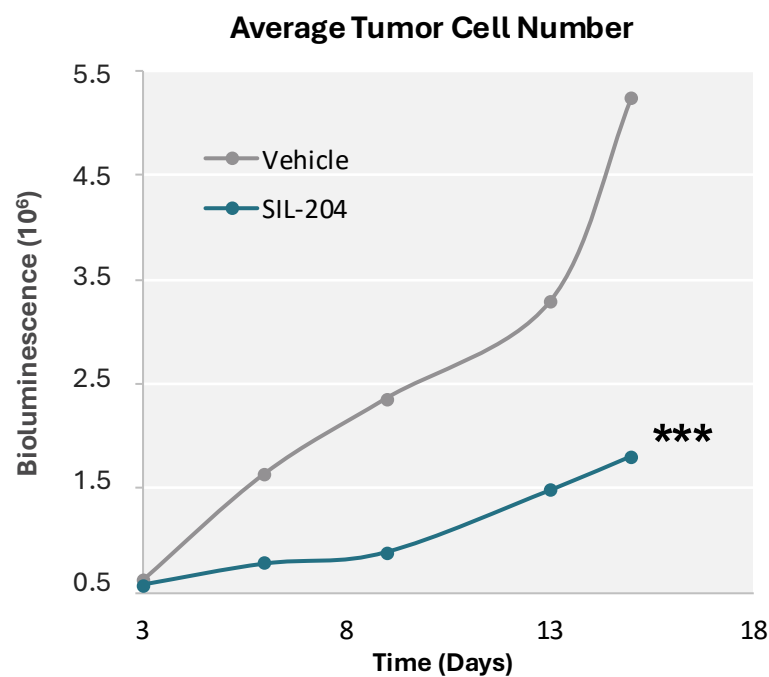
Intratumor Administered SIL204 Inhibited Human Pancreatic Cancer Xenograft Growth in Mice

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

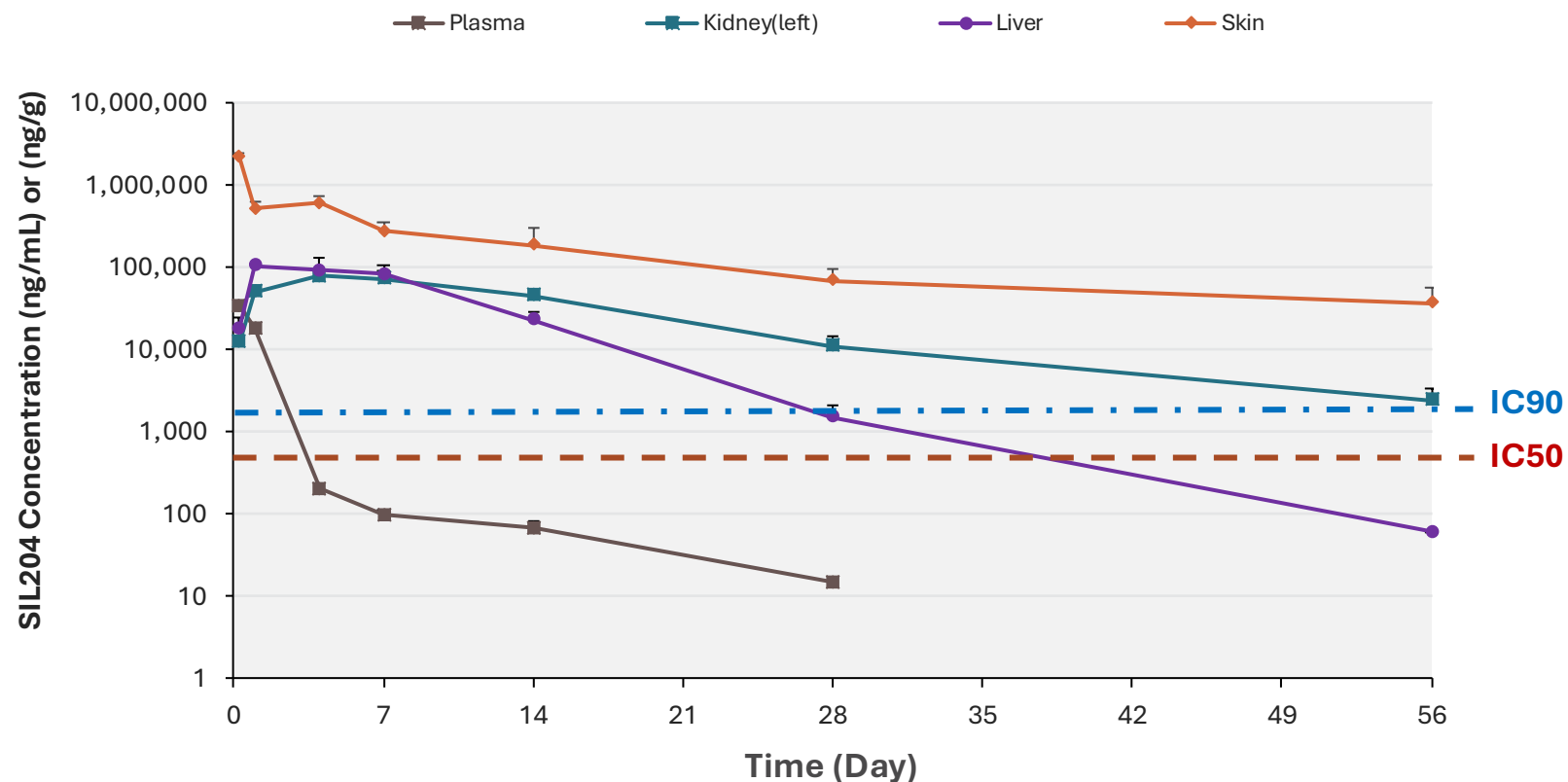
Days 3-15: mice were evaluated for bioluminescence to evaluate relative tumor cell counts

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



SIL204 Enhancements Result in Improved Stability

SIL204 maintains therapeutic levels in target tissues for >28 days

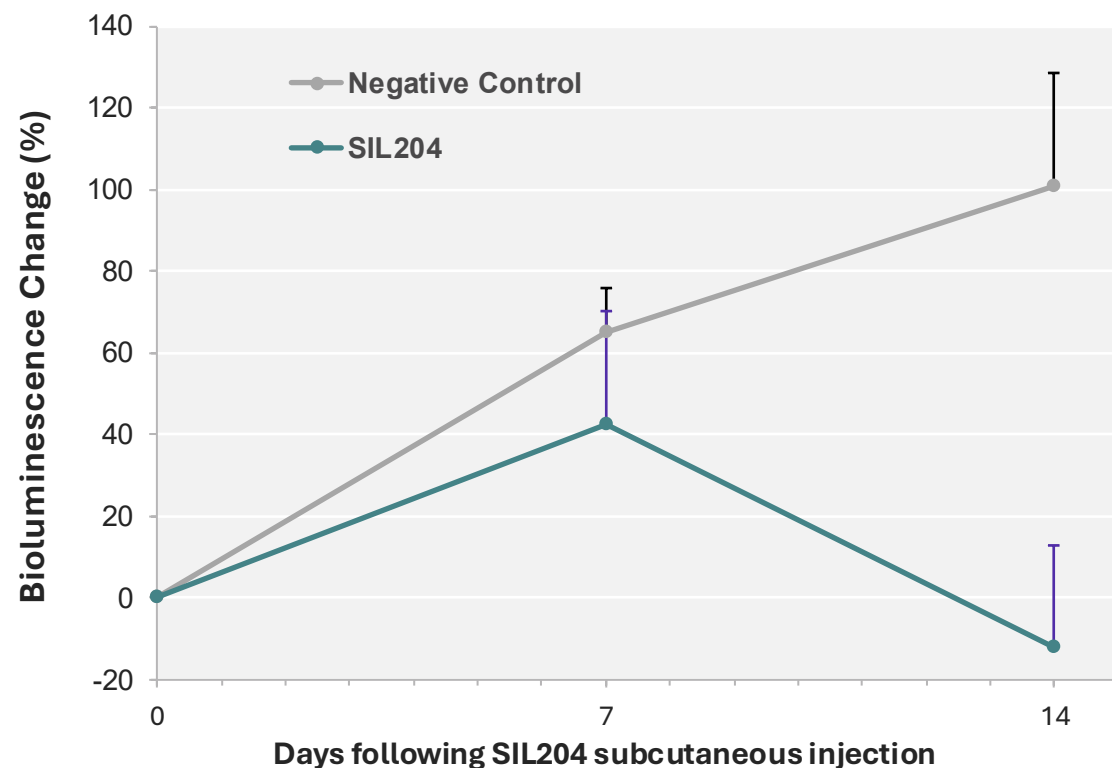


Potential for monthly dosing to control micrometastatic disease

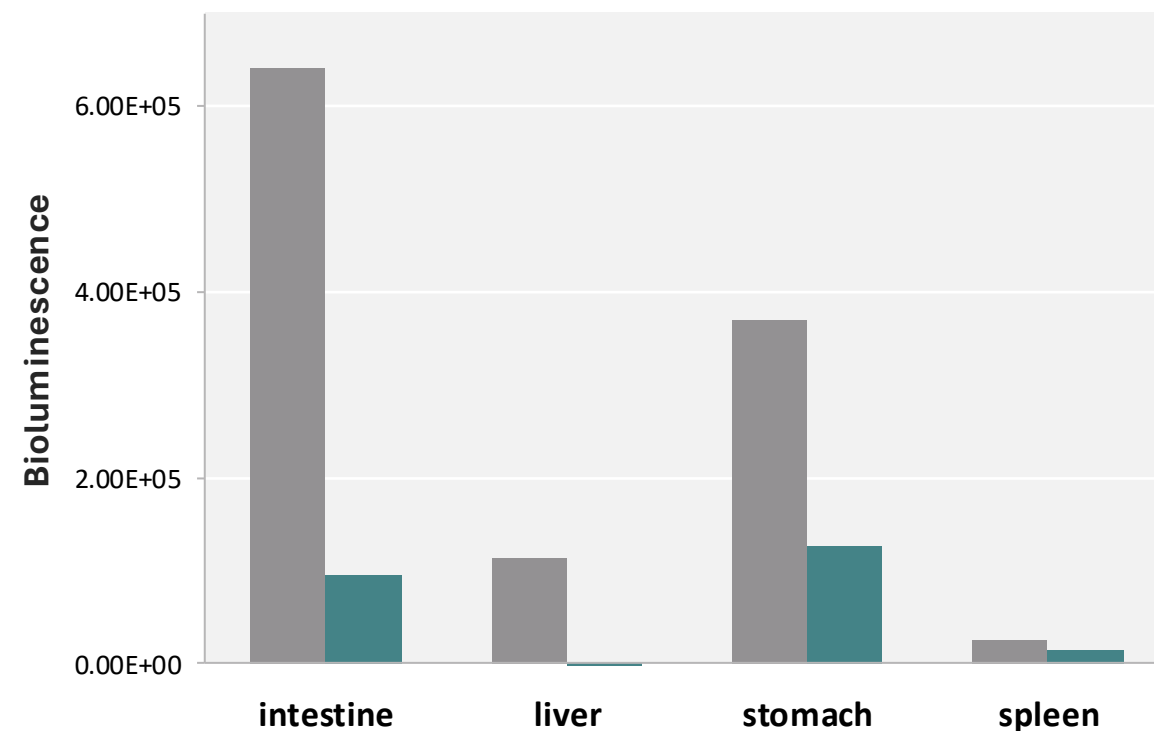
Systemic Administration of siRNA Strongly Supported by Preclinical Data

Subcutaneous SIL204 proved effective in mouse metastatic pancreatic orthotopic models

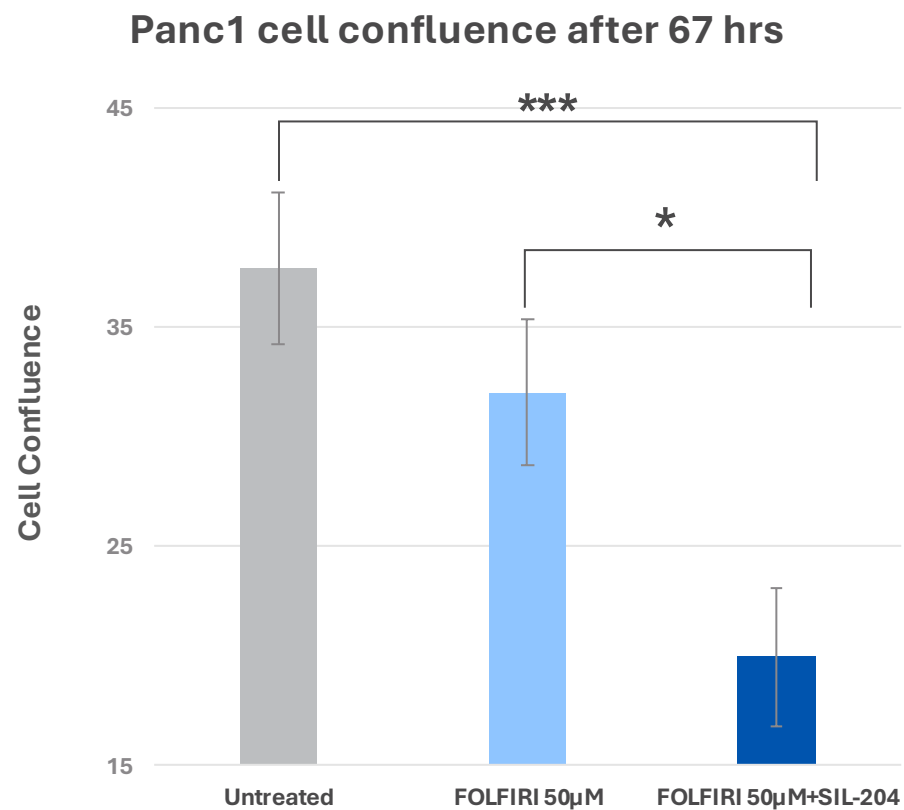
SC SIL204 ablated xenograft tumor



Bioluminescent imaging of metastatic organs



SIL204's Anti-Tumor Activity Synergistic with Pancreatic Cancer Chemotherapy



* $p < 0.05$, *** $p < 0.0005$
Human pancreatic cell line Panc-1 (G12D)

Toxicology

Favorable Tolerability with No Systemic Toxicity or Organ Damage

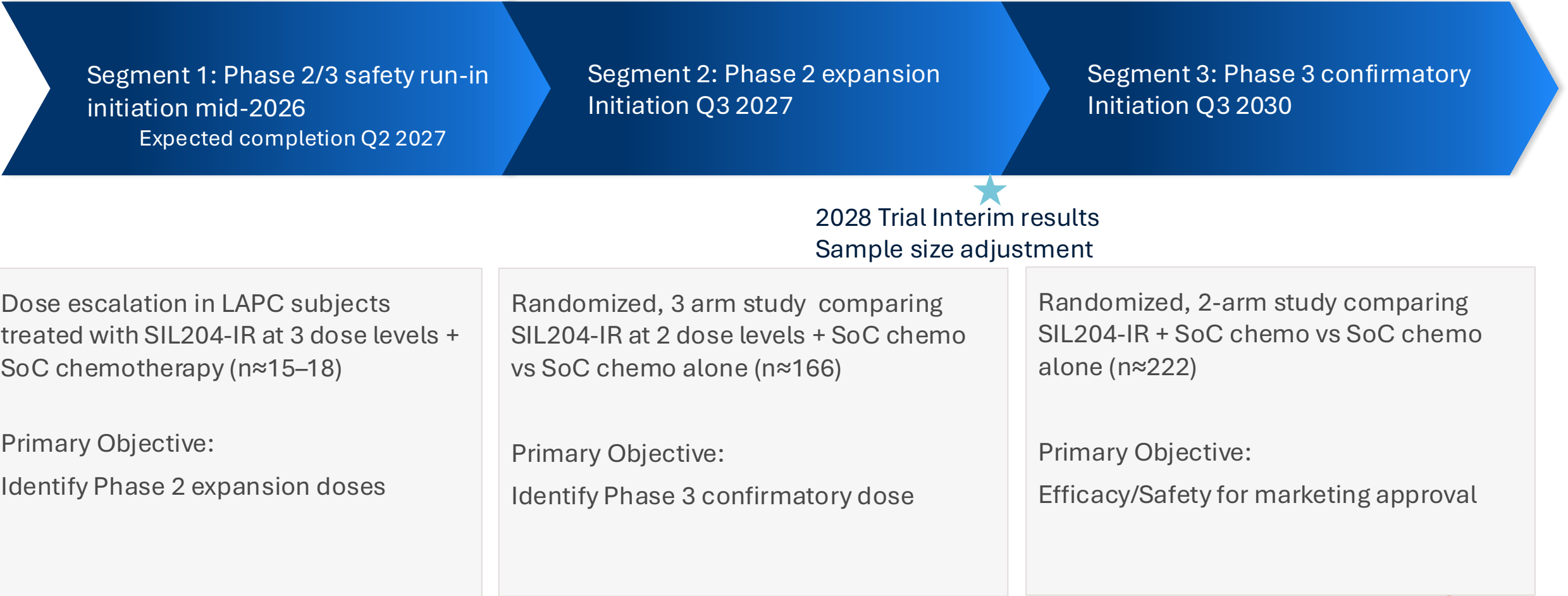
- Extended single-dose GLP toxicity studies completed in 2 relevant species, aligned with ICH S9 guidance for oncology and confirmed by regulatory agency for initiation of Phase 2/3 clinical trial
 - Established safety margins of up to 11-fold over the clinical starting dose.
 - SIL204 was well-tolerated in both species with no test article-related organ toxicity or mortality observed.
 - Adverse findings limited to non-adverse changes at local injection site, fully resolved at 1 month.
 - No evidence of complement activation or immunotoxicity.
- Toxicology package for marketing approval planned for H2, 2026

SIL204 Phase 2/3 Clinical Trial Initiated July 2026

SIL204 administered intratumorally and systemically as an integrated treatment regimen (IR)

Primary endpoint: Overall survival (OS)

Secondary endpoints: ctDNA biomarker data (expected early Q4, 2026), Progression-free survival (PFS), overall response rate (ORR)



Strategic Collaboration for SIL204 GMP Clinical Supply with Leading European Manufacturers

Collaboration to leverage Catalent and Axolabs' experience in formulation development and manufacturing biologicals to further enhance SIL204's therapeutic potential through improved stability, bioavailability, and delivery precision.



Catalent Limoges Facility

A European Center of Excellence for clinical biologics formulation development and drug manufacture



Axolabs Facility

Leveraging expertise and large-scale nucleic acid production

Silexion advancing SIL204 Phase 2/3 Development Plan

- ✓ GMP clinical supply for Ph2/3 safety run-in manufactured
- ✓ Toxicology complete for Ph2/3 safety run-in
- ✓ Positive scientific advice from the EMA received
- ✓ Initiation of Ph2/3 approved by Israel's MoH and Germany's BfArM
- ✓ Initiated Ph2/3 safety run-in
- Early human data regarding SIL-204 expected Q4, 2026
- IND application Q1, 2027
- Expansion Phase 2/3 to USA and EU countries submission and initiation Q1, 2027
- Segment 2: Phase 2 expansion Q1, 2027

SIL204

First in class siRNA targeting KRAS-driven cancers

- SIL204 Phase 2/3 in locally advanced pancreatic cancer received regulatory approval in Israel and Germany, initiated clinical trial July 2026; pre-IND meeting with FDA expected early 2027
- Isoform-selective, pan KRAS silencer, stable siRNA with targeted delivery system
- Preclinical proof of concept in additional KRAS-driven cancers including CRC

First generation product showed KRAS silencing potential but highlighted delivery limitation

Second generation product (SIL204) designed for enhanced cellular delivery, better stability, and broader antitumor activity

Dual-delivery strategy targets both primary lesion and metastases

Thank You

Ilan Hadar

Chairman & Chief Executive Officer

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Dr. Mitchell Shirvan

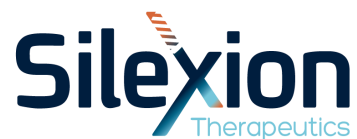
Chief Scientific and Development Officer

email: mshirvan@silexion.com

Mirit Horenshtein Hadar, CPA

Chief Financial Officer

email: mirit@silexion.com



Nasdaq: SLXN

Intellectual Property Protection

Submissions	Term
Entered national Phase world wide, SIL-204 as a composition and for use in treatment of pancreatic and other cancers (following successful USPTO review of PCT) U.S. Patent Application No. 19/443,507 CIP of U.S. Patent Application No. 19/138,670	Expected protection until 2043 plus estimated extension to 2048
siRNA against KRAS G12x for regional perineural invasion or pain associated with a solid tumor U.S. Patent Application No. 19/443,507	Pending US/EU, expected term till 2040 plus extension

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, Germany

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



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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

Over 25 years of multinational executive managerial and corporate experience with pharmaceutical and high-tech companies. CEO PainReform (“PRFX”), CFO Foamix Pharmaceuticals Inc. (Currently “VYNE”)



Mitchell Shirvan, PhD, MBA Chief Scientific and Development Officer

Over 30 years of experience in R&D, innovation and discovery in biotech companies. CEO MacroCure Ltd., Sr. V.P. R&D Foamix Pharmaceuticals Inc. (Currently “VYNE”), Sr. Director Strategic Business Planning Teva Pharmaceuticals Industries Inc.



Mirit Horenshtein Hadar, CPA Chief Financial Officer

Over 15 years of corporate finance experience in senior financial positions of public companies and privately held companies, in the pharmaceutical and high-tech industries. CFO Gouzy Israel (“GAUZ”). V.P. Finance Foamix Pharmaceuticals Inc. (Currently “VYNE”)

