LISATA THERAPEUTICS

Targeted Therapy *Delivered*

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Corporate Presentation | January 8, 2023
Nasdaq: LSTA

www.lisata.com

Forward-looking Statements

This presentation contains “forward-looking statements” that involve substantial risks and uncertainties for purposes of the safe harbor provided by the Private Securities Litigation Reform Act of 1995. All statements, other than statements of historical facts, included in this communication regarding strategy, future operations, future financial position, future revenue, projected expenses, prospects, plans and objectives of management are forward-looking statements. In addition, when or if used in this communication, the words “may,” “could,” “should,” “anticipate,” “believe,” “estimate,” “expect,” “intend,” “plan,” “predict”, target and similar expressions and their variants, as they relate to Lisata or its management, may identify forward-looking statements. Examples of forward-looking statements include, but are not limited to, statements relating to the long-term success of Lisata’s recently completed merger (the “Merger”) with Cend Therapeutics, Inc. (“Cend”), including the ongoing integration of Cend’s operations; Lisata’s continued listing on the Nasdaq Capital Market; expectations regarding the capitalization, resources and ownership structure of Lisata; the approach Lisata is taking to discover, develop and commercialize novel therapeutics; the adequacy of Lisata’s capital to support its future operations and its ability to successfully initiate and complete clinical trials; and the difficulty in predicting the time and cost of development of Lisata’s product candidates. Actual results could differ materially from those contained in any forward-looking statement as a result of various factors, including, without limitation: the impact of the ongoing COVID-19 pandemic on Lisata’s business, the safety and efficacy of Lisata’s product candidates, decisions of regulatory authorities and the timing thereof, the duration and impact of regulatory delays in Lisata’s clinical programs, Lisata’s ability to finance its operations, the likelihood and timing of the receipt of future milestone and licensing fees, the future success of Lisata’s scientific studies, Lisata’s ability to successfully develop and commercialize drug candidates, the timing for starting and completing clinical trials, rapid technological change in Lisata’s markets, the ability of Lisata to protect its intellectual property rights; unexpected costs, charges or expenses resulting from the Merger; potential adverse reactions or changes to business relationships resulting from the completion of the Merger; potential underperformance of Lisata’s business following the Merger as compared to management’s initial expectations; and legislative, regulatory, political and economic developments. The foregoing review of important factors that could cause actual events to differ from expectations should not be construed as exhaustive and should be read in conjunction with statements that are included herein and elsewhere, including the risk factors included in Lisata’s Annual Report on Form 10-K filed with the SEC on March 22, 2022, and in the proxy statement/prospectus filed by Lisata with the Securities and Exchange Commission relating to the Merger. Except as required by applicable law, Lisata undertakes no obligation to revise or update any forward-looking statement, or to make any other forward-looking statements, whether as a result of new information, future events or otherwise.

Investment highlights

NOVEL TECHNOLOGY TO IMPROVE EFFICACY OF ANTI-CANCER DRUGS FOR SOLID TUMORS

EXISTING CAPITAL EXPECTED TO FUND PROJECTED MILESTONES | EXISTING STRATEGIC PARTNERSHIPS

- Nasdaq-listed with a focused mid-late-stage clinical development pipeline and a promising preclinical platform
- Stable finances: ~$75.5 million cash & investments as of 9/30/22; no debt
- Proprietary field-leading technology in underserved global indications backed by a strong IP portfolio
- Platform technology “validated” by strong existing partnerships with potential for many others
- Multiple potential value creating data and business development events projected in the next 12-24 months
- Seasoned management with domain expertise along with big pharma and emerging pharma experience

*SoC = standard-of-care

Proprietary platform technologies

CendR Platform™ - a targeted tissue penetration technology to enhance drug delivery to solid tumors

- Converts tumor stroma from barrier to conduit for efficient delivery of chemo-, targeted and immunotherapies
  - Delivery can be accomplished via co-administration or by tethering
- Selectively depletes intratumoral immunosuppressive cells
- Combination with many existing chemo- and immuno-therapeutics possible in a variety of indications

Tumor-Penetrating Nanocomplex (TPN) Platform™ - broad potential for delivery of nucleic acid-based therapies

- Extends CendR Platform™ to address key challenges to delivery of nucleic acid-based drugs to treat solid tumor cancers
- Clinical development candidate identification targeted for 2024

CD34+ Cell Therapy Platform - designed to address diseases and conditions caused by ischemia

- Ability to provoke vascular repair in multiple organs has been clinically demonstrated in a variety of ischemic diseases
- Data to date suggest a single treatment elicits durable therapeutic effects[1-4]

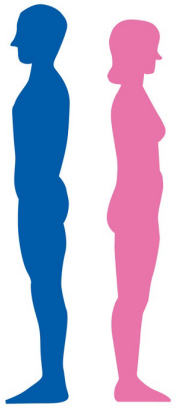
[1] Povsic, T. et al. *JACC Cardiovasc Interv*, 2016, 9 (15) 1576-1585
[2] Losordo, D.W. et al. *Circ Cardiovasc Interv,* 2012; 5:821–830
[3] Velagapudi P, et al, *Cardiovas Revasc Med*, 2018, 20(3):215-219
[4] Henry T.D., et al, *European Heart Jour* 2018, 2208–2216

Treatment of solid tumors represents a large unmet clinical need

Estimated New Cancer Cases and Deaths in the United States, 2022[1]

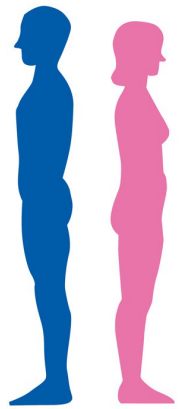
Estimated New Cases

Males			Females		
Prostate	268,490	27%	Breast	287,850	31%
Lung & bronchus	117,910	12%	Lung & bronchus	118,830	13%
Colon & rectum	80,690	8%	Colon & rectum	70,340	8%
Urinary bladder	61,700	6%	Uterine corpus	65,950	7%
Melanoma of the skin	57,180	6%	Melanoma of the skin	42,600	5%
Kidney & renal pelvis	50,290	5%	Non-Hodgkin lymphoma	36,350	4%
Non-Hodgkin lymphoma	44,120	4%	Thyroid	31,940	3%
Oral cavity & pharynx	38,700	4%	**Pancreas**	**29,710**	**3%**
Leukemia	35,810	4%	Kidney & renal pelvis	28,710	3%
Pancreas	**32,970**	**3%**	Leukemia	24,840	3%
All Sites	**983,160**	**100%**	**All Sites**	**934,870**	**100%**



Estimated Deaths

Males			Females		
Lung & bronchus	68,820	21%	Lung & bronchus	61,360	21%
Prostate	34,500	11%	Breast	43,250	15%
Colon & rectum	28,400	9%	Colon & rectum	24,180	8%
Pancreas	**25,970**	**8%**	**Pancreas**	**23,860**	**8%**
Liver & intrahepatic bile duct	20,420	6%	Ovary	12,810	4%
Leukemia	14,020	4%	Uterine corpus	12,550	4%
Esophagus	13,250	4%	Liver & intrahepatic bile duct	10,100	4%
Urinary bladder	12,120	4%	Leukemia	9,980	3%
Non-Hodgkin lymphoma	11,700	4%	Non-Hodgkin lymphoma	8,550	3%
Brain & other nervous system	10,710	3%	Brain & other nervous system	7,570	3%
All Sites	**322,090**	**100%**	**All Sites**	**287,270**	**100%**



Pancreatic cancer is among the deadliest cancers in the U.S. with a five-year survival rate of only 11%

An estimated 609,360 people will die from cancer in 2022, corresponding to ~1,670 deaths per day

In the U.S. alone, solid tumors account for over 90% of new cancer cases

It is estimated that more than 1.9 million new cases of cancer will be diagnosed in 2022

[1] CA A Cancer J Clinicians, Volume: 72, Issue: 1, Pages: 7-33, First published: 12 January 2022, DOI: (10.3322/caac.21708)

Clinical development pipeline with broad therapeutic reach

LSTA1 (aka CEND-1), advancing in several difficult-to-treat solid tumor applications

- Ongoing multiple studies in first-line, metastatic pancreatic ductal adenocarcinoma (mPDAC) in combination with standards-of-care (SoC) chemotherapy (i.e., gemcitabine + nab-paclitaxel or FOLFIRINOX)
- Basket trial to initiate in 1H2023 expanding development to other solid tumors and additional anti-cancer drug combinations, including immunotherapies
- Granted Fast Track and Orphan Drug Designations by the U.S. FDA in PDAC

CD34+ autologous cell therapy development programs advancing to next development milestone

- No additional capital outlay necessary to reach identified milestones
- HONEDRA® (SAKIGAKE designated) advancing through Japanese regulatory consultation process toward JNDA
- LSTA201 proof-of-concept (PoC) results expected in 1Q23

Noteworthy existing partnerships and the potential for many more

Strategic partnership in China with QILU Pharmaceutical

- Exclusive rights to LSTA1 in China, Taiwan, Hong Kong and Macau
- QILU assumes all development and commercialization responsibilities and costs in the licensed territories
- Potential for up to $225 million to Lisata for milestones and tiered double-digit royalties on potential sales

Clinical development collaboration with Roche in mPDAC

- LSTA1/gemcitabine/nab-paclitaxel treatment regimen ± atezolizumab as part of MORPHEUS umbrella trial

Additional partnership opportunities for broad applications of LSTA1 and the CendR Platform™

Ongoing discussions support goal to partner CD34+ programs

CendR Platform™ current and planned clinical trials

Sponsor/Funding Partner [Development Venue]	Indication and Trial Product/Comparator	Stage of Development	Strategic Rationale
Lisata/AGITG [Australia/New Zealand/Ireland]	**First-line mPDAC;** Gemcitabine/nab-paclitaxel with LSTA1 or placebo	**Phase 2b (ASCEND)**	Corroborate AUS Phase 1b results in a placebo-controlled trial and evaluate 2 dose regimens of LSTA1 for dose optimization
Lisata [United States]	**Various Solid Tumors;** SoC with LSTA1 or placebo	**Phase 2a (Basket Trial)**	Assess LSTA1 effectiveness in several tumor types in a placebo-controlled trial (Proof-of-Concept)
KUCC - IIT [United States]	**Pancreatic, Colon & Appendiceal Cancers;** LSTA1 + FOLFIRINOX + panitumumab*	**Phase 1b/2 (CENDIFOX)**	Determine immuno-profiling in tumor pre- & post-treatment and assess LSTA1 effectiveness in combination with chemo and an EGFR inhibitor in various tumor types (open label)
Roche/Lisata [Multi-national]	**First-line mPDAC;** Gemcitabine/nab-paclitaxel/LSTA1 ± atezolizumab	**Phase 1b/2 (MORPHEUS)**	Assess LSTA1 effectiveness in combination with immunotherapy & SoC chemotherapy in mPDAC (controlled trial)
QILU [China]	**First-line mPDAC;** Gemcitabine/nab-paclitaxel + LSTA1	**Phase 1b/2a**	Assess safety, PK, therapeutic effect of LSTA1 in Chinese patients (open label)
QILU [China]	**First-line mPDAC;** Gemcitabine/nab-paclitaxel + LSTA1	**Phase 2b**	Continue development of LSTA1 in China – replicate Lisata clinical development strategy (placebo controlled)

**Panitumumab may be added for colorectal or appendiceal patients without Ras mutation*

CendR Platform™ current and planned clinical trials (cont.)

Sponsor/Funding Partner [Development Venue]	Indication and Trial Product/Comparator	Stage of Development	Strategic Rationale
WARPNINE [Australia]	**Locally advanced resectable PDAC;** Durvalumab/gemcitabine/nab-paclitaxel + LSTA1	**Phase 1b/2a (iLSTA)**	Assess LSTA1 effectiveness in combination with IO & Chemo in locally advanced PDAC; determine if inoperable tumors can become operable (open label)
WARPNINE [Australia]	**Locally advanced resectable Gastroesophageal (GE) adenocarcinoma;** Nivolumab + FFX + LSTA1	**Phase 1b/2a (iGoLSTA)**	Assess LSTA1 effectiveness in combination with IO & chemo in locally advanced GE AdenoCa; determine if inoperable tumors can become operable (open label)
Tartu University - IIT [Estonia]	**First-line Glioblastoma Multiforme;** Temozolomide ± LSTA1	**Phase 2a**	Assess LSTA1 effectiveness in additional tumor type (GBM) a in placebo-controlled trial
UCSD/Columbia University – ITT [United States]	**Peritoneal Carcinomatosis** LSTA+HIPEC intraoperatively	**Phase 1b/2a**	Assess intraoperative tumor penetration of HIPEC in combination with LSTA1 (open label)

CD34+ cell therapy current clinical trials

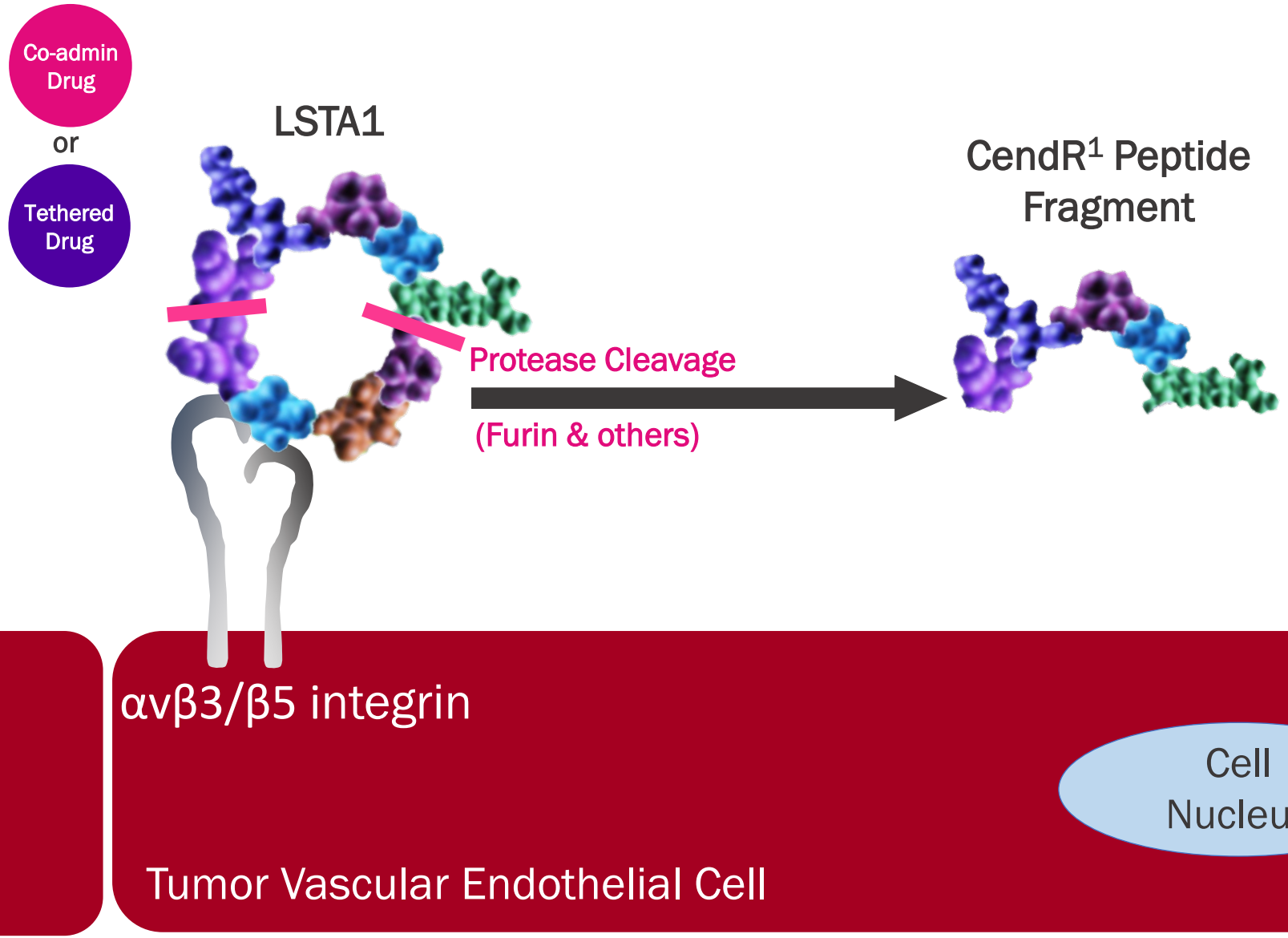
Sponsor/Funding Partner [Development Venue]	Indication and Trial Product/Comparator	Stage of Development	Strategic Rationale
Lisata [Japan]	**Critical Limb Ischemia & Buerger's Disease;** HONEDRA® (LSTA12)	**Registration Eligible**	Assess safety and efficacy in a controlled trial vs. SoC alone in the context of qualifying for approval in Japan under the accelerated regulatory pathway applicable to regenerative medicines
Lisata [United States]	**Diabetic Kidney Disease;** LSTA201	**Phase 1b – Proof of Concept**	Assess ability of LSTA201 to be administered to DKD patients safely and to increase eGFR (reverse disease progression)

LSTA1

(aka CEND-1)

Mechanism of Action and Early Clinical Results

LSTA1 MoA: tumor targeting and microenvironment modifying



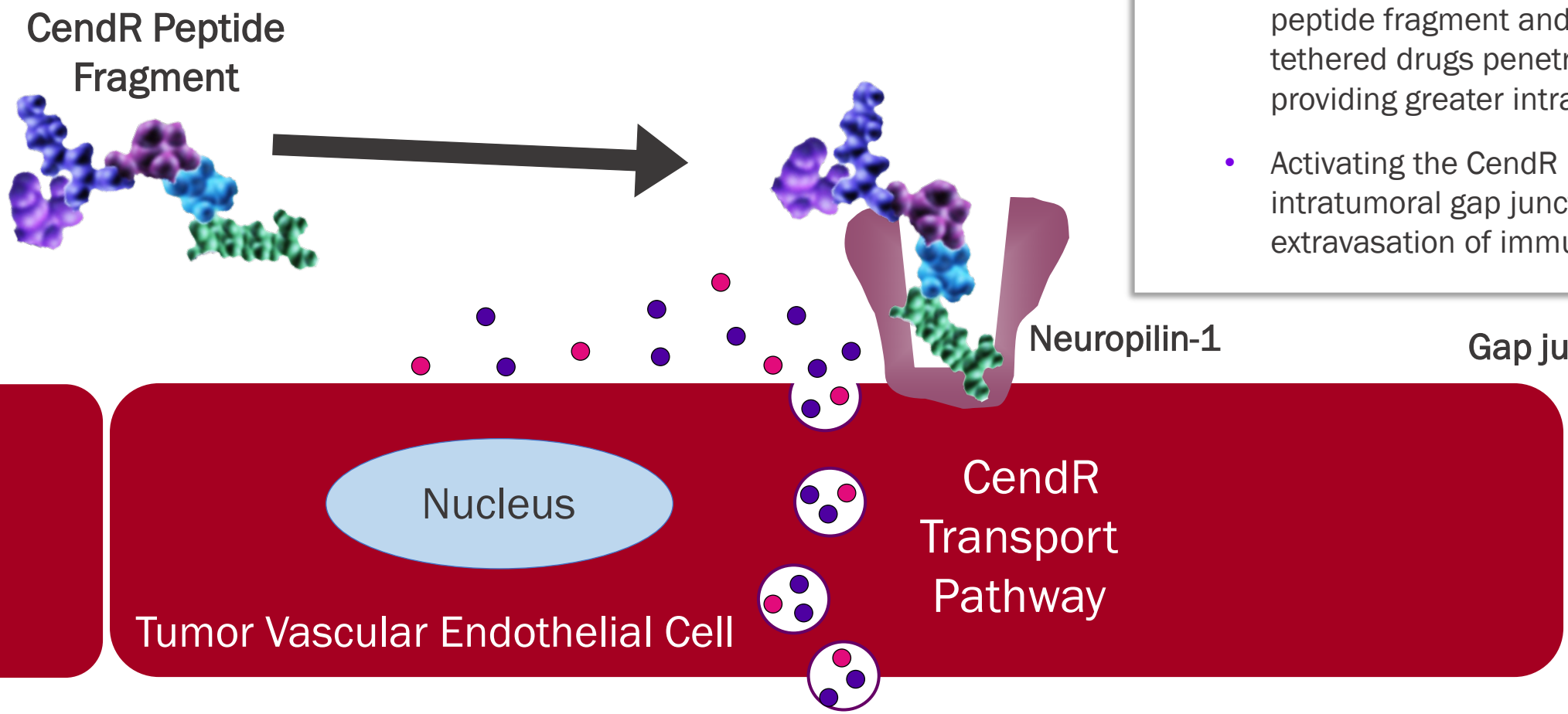
- LSTA1: 9 amino acid cyclic peptide; high binding specificity and affinity to αvβ3/β5 integrins that are selectively expressed on:
  - Tumor vascular endothelium
  - Cancer-associated fibroblasts, a major component of tumor stroma
  - Intratumoral immunosuppressive cells
- Once bound to αvβ3/β5 integrins, LSTA1 is cleaved by proteases (furin and others) that are up-regulated in tumors, releasing a C-end Rule (CendR) linear peptide fragment

[1] C-end Rule

LSTA1 MoA: tumor targeting and microenvironment modifying (cont.)

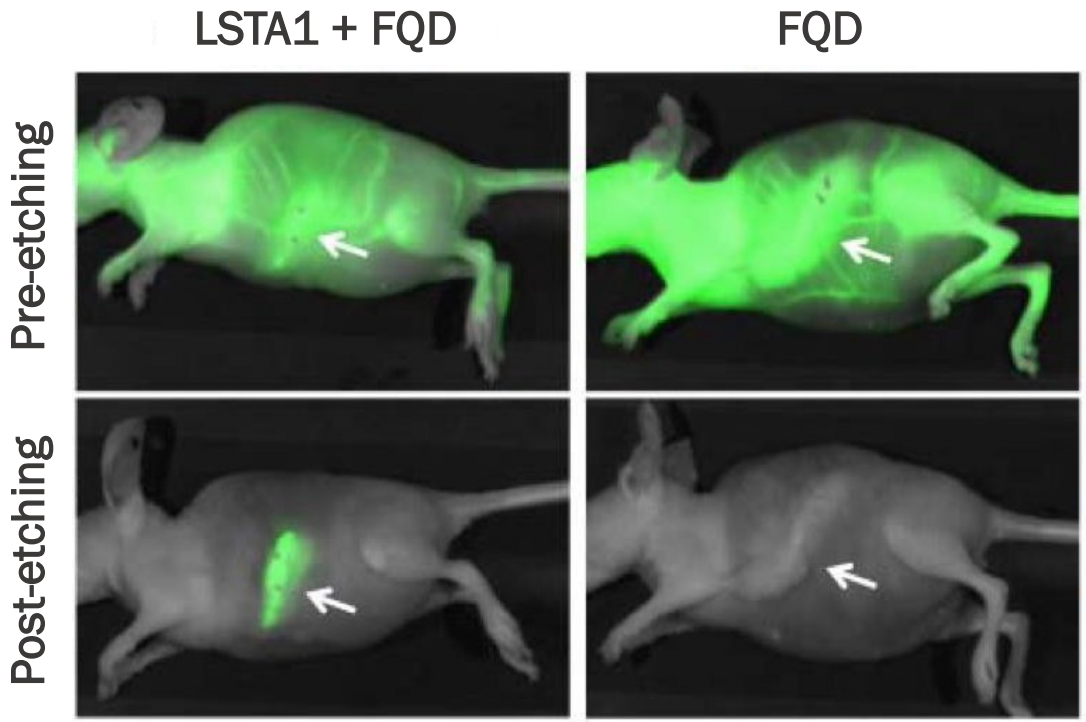
Co-administered or tethered anti-cancer drugs

- The CendR fragment then binds with high affinity to an adjacent receptor, neuropilin-1, activating the CendR transport pathway
  - Circulating moieties including unbound CendR peptide fragment and co-administered or tethered drugs penetrate stroma and tumor, providing greater intratumoral access
  - Activating the CendR pathway opens intratumoral gap junctions enhancing extravasation of immune cells into tumors



LSTA1 selectively and efficiently facilitates intratumoral delivery

Whole body imagining of mice with pancreatic ductal adenocarcinoma (arrow) dosed with Fluorescent Quantum Dots (FQDs) with and without LSTA1

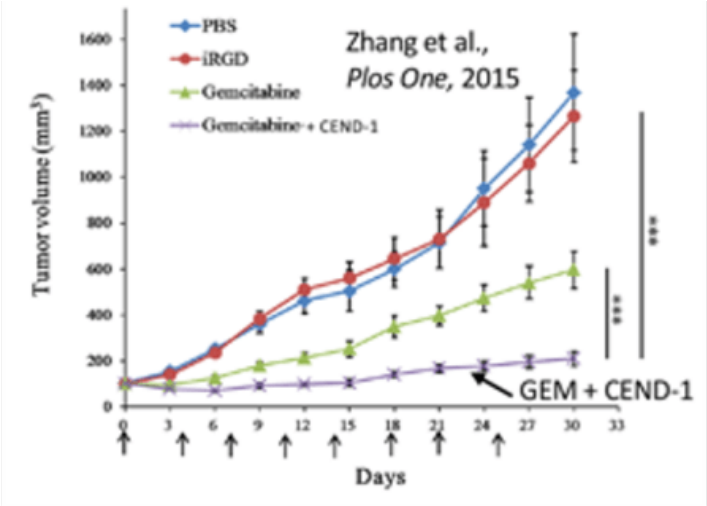


- Etching solution quenches fluorescence in circulation
- LSTA1 enables selective tumor penetration of FQDs

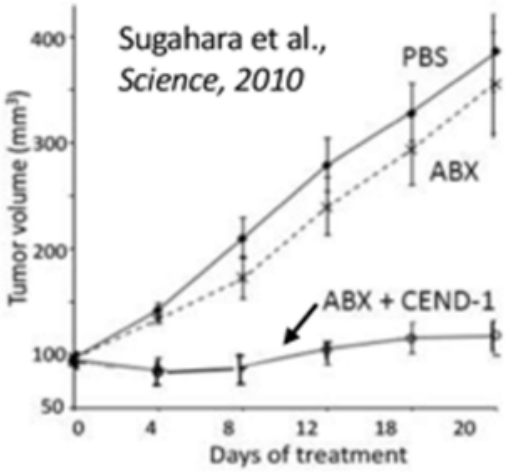
[1] Braun et al., Nature Mater. 2014.
[2] Liu, Braun et al., Nature Comm. 2017.

Increased tumor penetration enhances antitumor activity across range of treatment modalities

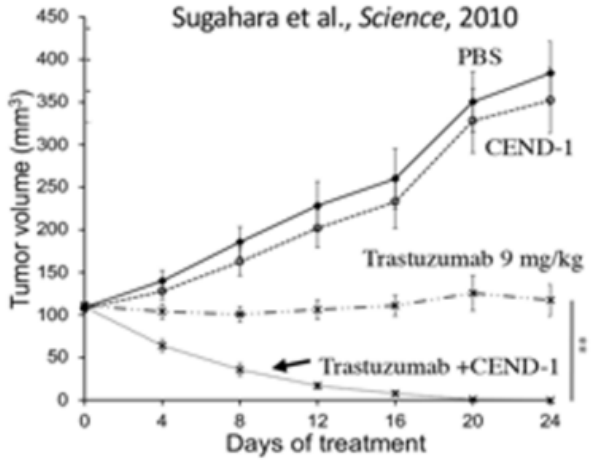
Lung cancer + gemcitabine



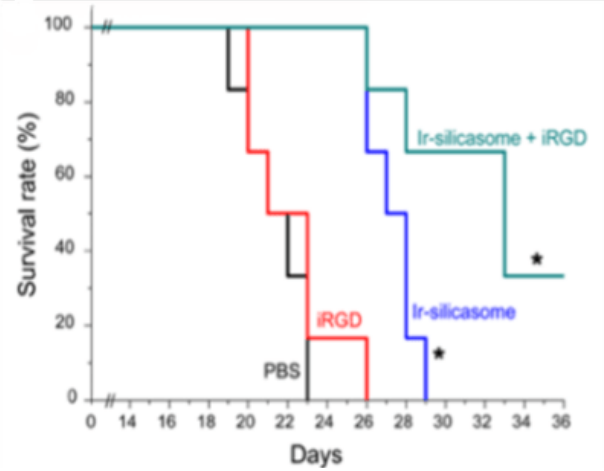
Breast cancer + nanoparticle Abraxane



Breast cancer + antibody (Herceptin®)

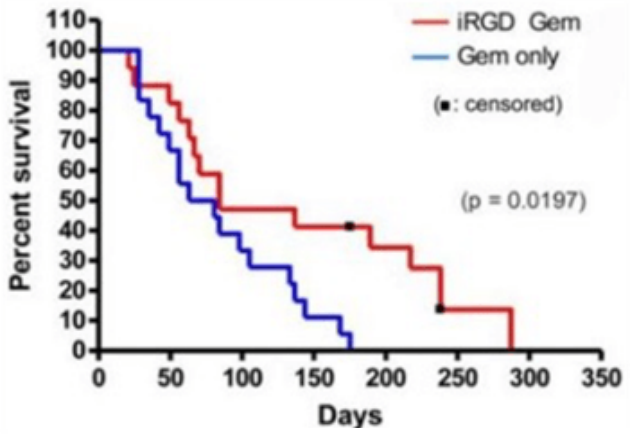


Pancreatic ductal adenocarcinoma



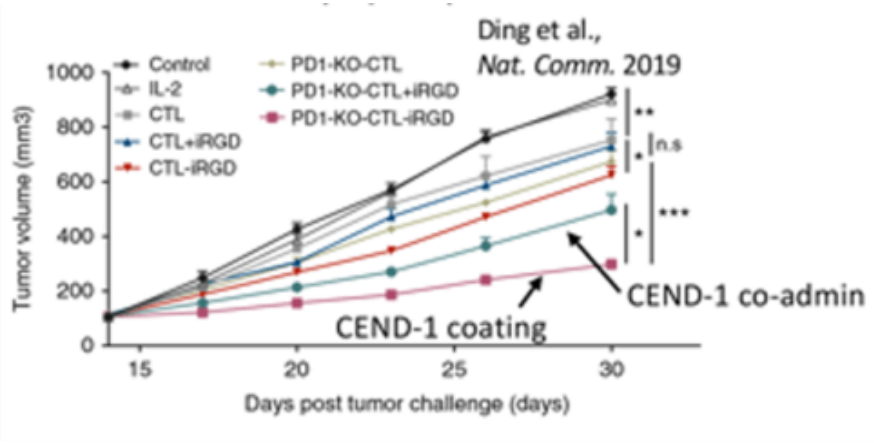
Orthotopically transplanted KPC PDAC tumors
CEND-1 + irinotecan nanoparticles (i.v. co-admin)

Pancreatic ductal adenocarcinoma



KPC mice genetically engineered to develop PDAC
CEND-1 + gemcitabine (i.v. co-admin)

GI cancer + adoptive cell therapy



[1] Hurtado de Mendoza et al, *Nature Comms*, 2021.
[2] Liu X et al., J Clin Invest, 2017.

LSTA1 Phase 1b results reinforce promise of improving SoC efficacy

First-line, mPDAC patients from 3 sites in Australia;

- n=31 (29 evaluable); LSTA1 in combination with SoC (gemcitabine + nab-paclitaxel)
- LSTA1 well-tolerated, no dose-limiting toxicities; safety with LSTA1 consistent with SoC alone
- Unprecedented improvement of SoC anti-tumor activity [1,2]
  - Overall Response Rate (PR+CR=ORR) 59% (vs. 23%) including Complete Response
  - Disease Control Rate at 16 weeks 79.3% (vs. 48%)
  - CA19-9 circulating tumor biomarker reductions in 96% of patients (vs. 61%)
  - Median Progression-Free Survival 9.7 months (vs. 5.5 months[2])
  - Median Overall Survival 13.2 months (vs. 8.5 months[2])

[1] Dean A, et al., *The Lancet Gastroenterology & Hepatology*, 2022.
[2] Von Hoff D, et al., *New England Journal of Medicine, 2013.*

LSTA1

[aka CEND-1]

Clinical Development Portfolio

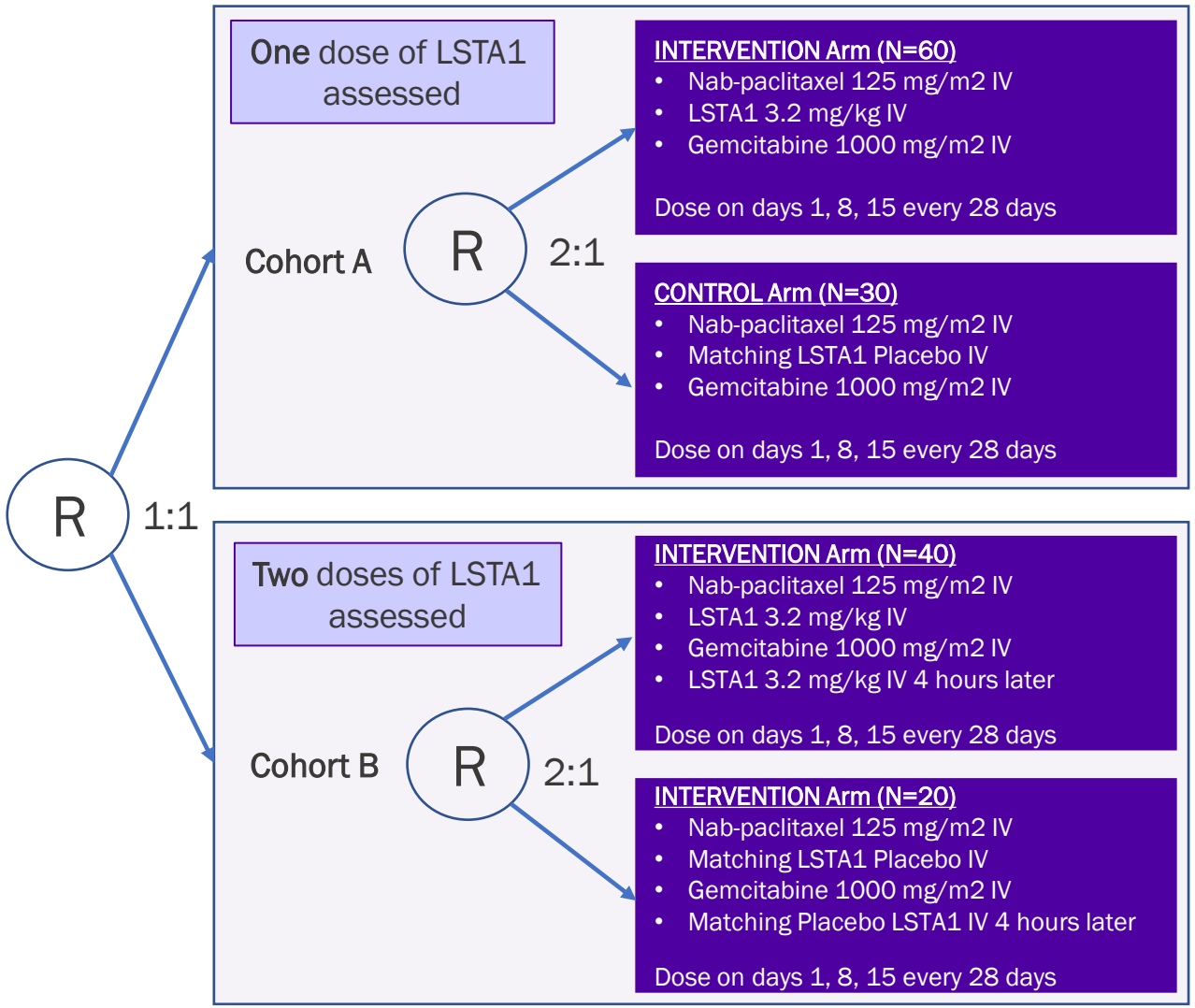
Fast Track and Orphan Drug designated (PDAC) - USA

ASCEND: Phase 2b, blinded, randomized trial in mPDAC

Sponsor/Partner	▪ Lisata/Australasian Gastro-Intestinal Trials Group (AGITG) in collaboration with the NHMRC Clinical Trials Centre at the University of Sydney ▪ AGITG/LSTA co-funded (LSTA eligible for ~43% rebate on all qualified R&D expenses in AUS)
Objective	▪ Corroborate Phase 1b results in a placebo-controlled study ▪ Determine if a second dose of LSTA1 further improves patient outcomes
Design	▪ Phase 2b randomized, double-blind study in mPDAC testing gemcitabine + nab-paclitaxel SoC with one of two LSTA1 dose regimens or placebo
Study Size	▪ ~150 subjects (~40 sites planned in Australia, New Zealand and Ireland)
Endpoints	▪ Primary: Progression Free Survival ▪ Secondary: AEs, SAEs, Overall Survival, Objective Tumor Response Rate
Timing	▪ Enrollment completion target late 2023/early 2024 ▪ Earliest possible data 2024

ASCEND: Phase 2b, blinded, randomized trial in mPDAC

A Phase 2b randomized, double-blind study in mPDAC testing gemcitabine + nab-paclitaxel (SoC) with two LSTA1 dose regimens or placebo



- **Sponsor/Partner:** Lisata/Australasian Gastro-Intestinal Trials Group (AGITG) in collaboration with the NHMRC Clinical Trial Centre at the University of Sydney
- **AGITG/LSTA co-funded** (LSTA eligible for ~43% rebate on all qualified R&D expenses in AUS)
- **Timing:** Enrollment completion target late 2023/early 2024; Earliest possible data 2022

Endpoints
- Progression Free Survival (PFS)
- ORR
- OS
- Safety
- QoL
- Exploratory Endpoints

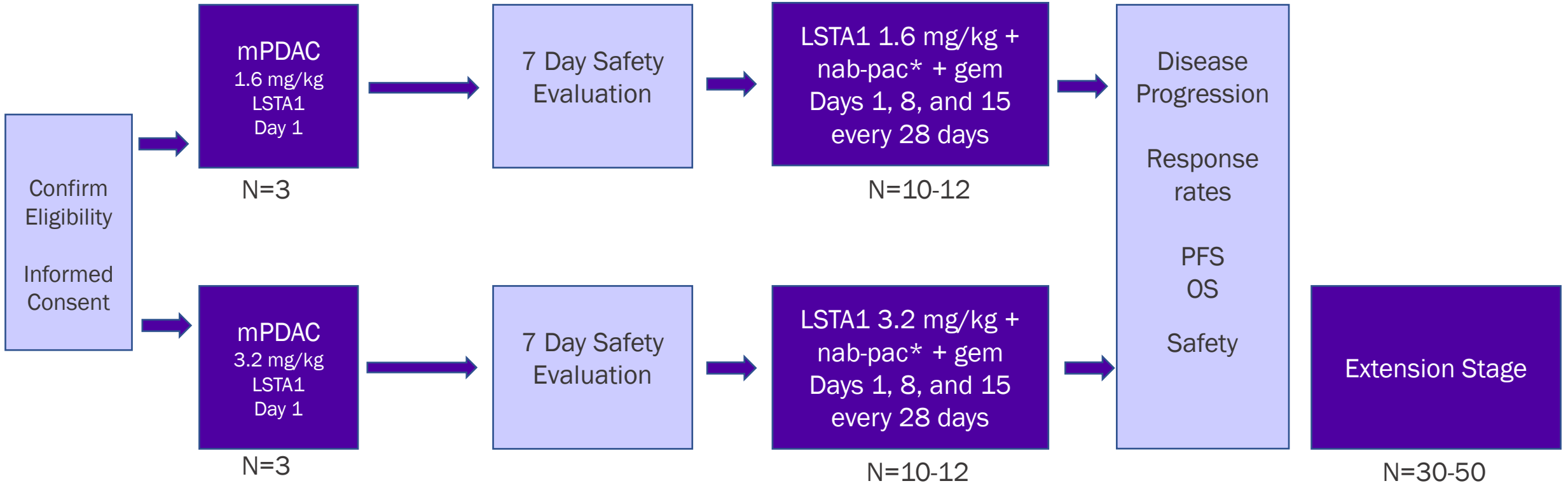
Phase 1b/2a open-label trial in mPDAC in China

Sponsor/Partner	▪ QILU Pharmaceutical (funds all development in China)
Objective	▪ Evaluate safety, pharmacokinetics and preliminary efficacy of LSTA1 added to SoC in Chinese patients with mPDAC
Design	▪ Phase 1b/2a open-label study in advanced mPDAC patients of Chinese ethnicity testing SoC chemotherapy (gemcitabine + QILU-produced nab-paclitaxel) in combination with LSTA1
Study Size	▪ 50 subjects (~15 sites)
Endpoints	▪ Primary: AEs, SAEs, Objective Response Rate, Duration of Response, Disease Control Rate, Overall Survival, and Progression Free Survival ▪ Secondary: Pharmacokinetic parameters
Timing	▪ Preliminary data expected 1H23

Phase 1b/2a open-label trial in mPDAC in China

A Phase 1b/2 clinical study on safety, pharmacokinetics, and preliminary efficacy of LSTA1 for injection in Chinese patients with advanced metastatic pancreatic ductal adenocarcinoma

- **Sponsor/Partner:** QILU Pharmaceutical (funds all development in China)
- **Timing:** Preliminary data expected 1H23



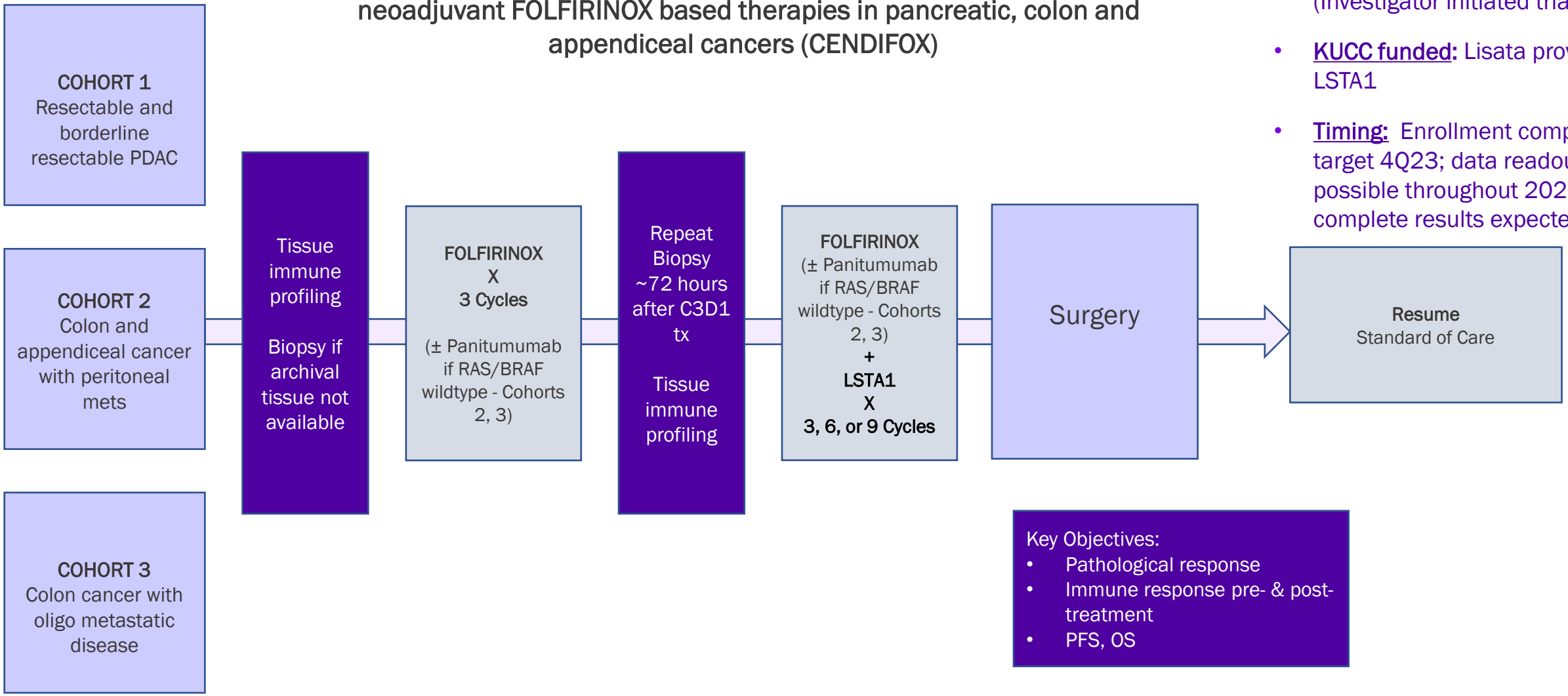
*QILU produced

CENDIFOX: Phase 1b/2a open-label trial in PDAC and other cancers

Sponsor/Partner	▪ University of Kansas Medical Center (Investigator initiated trial in U.S.) ▪ KUCC funded; Lisata provides LSTA1
Objective	▪ Evaluate the safety and therapeutic effect of LSTA1 in combination with neoadjuvant FOLFIRINOX-based therapies and an EGFR inhibitor for the treatment of pancreatic, colon and appendiceal cancers and determine immuno-profiling in tumor pre- & post- treatment
Design	▪ Phase 1b/2 open-label study in resectable pancreatic, colon with oligo metastases and appendiceal with peritoneal metastases cancers testing SoC chemotherapy (neoadjuvant FOLFIRINOX-based therapies) with LSTA1 ± panitumumab
Study Size	▪ 50 subjects (20 PDAC, 15 colon and 15 appendiceal)
Endpoints	▪ Primary: Drug Safety ▪ Secondary: Overall Survival, Disease-free Survival, Overall Response Rate, RO Resection Rate, Pathological Response Rate
Timing	▪ Enrollment completion target 4Q23 ▪ Data readouts possible throughout 2023 with complete results expected 2024

CENDIFOX: Phase 1b/2a open-label trial in PDAC and other cancers

An open-label Phase Ib/2a trial of LSTA1 in combination with neoadjuvant FOLFIRINOX based therapies in pancreatic, colon and appendiceal cancers (CENDIFOX)



- **Sponsor/Partner:** University of Kansas Medical Center (Investigator initiated trial)
- **KUCC funded:** Lisata provides LSTA1
- **Timing:** Enrollment completion target 4Q23; data readouts possible throughout 2023; complete results expected 2024

Key Objectives:
- Pathological response
- Immune response pre- & post-treatment
- PFS, OS

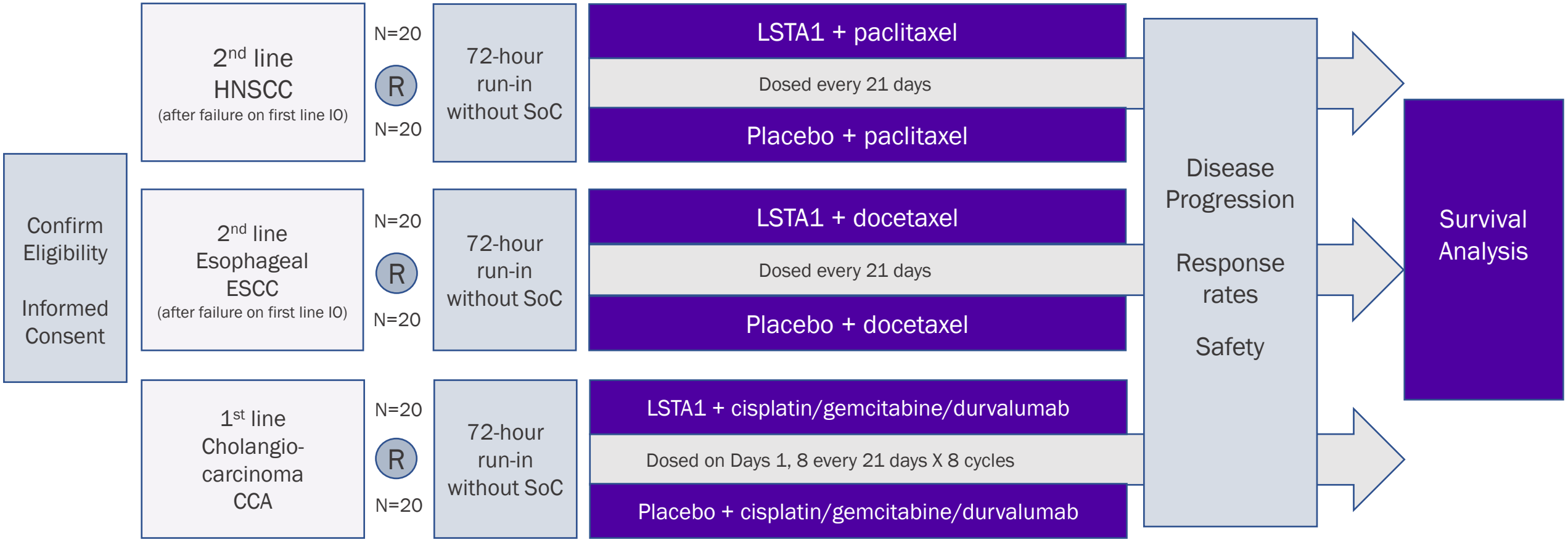
Basket: Phase 2 blinded, randomized PoC trial in various cancers

Sponsor/Partner	▪ Lisata (U.S.)
Objective	▪ Evaluate the preliminary efficacy, safety and tolerability of LSTA1 in combination with standards of care in subjects with advanced solid tumors
Design	▪ Phase 2 randomized, double-blind, placebo-controlled, proof-of-concept trial in 2nd line head and neck SCC, 2nd line esophageal SCC and 1st line cholangiocarcinoma testing corresponding SoC with LSTA1 or placebo
Study Size	▪ 120 (40 per tumor type split 1:1 SoC + LSTA1 or SoC + placebo)
Endpoints	▪ Primary: OS ▪ Secondary: Safety, ORR, PFS
Objective	▪ Evaluate the preliminary efficacy, safety and tolerability of LSTA1 in combination with standards of care in subjects with advanced solid tumors
Timing	▪ Trial initiation target: 2Q23

Basket: Phase 2 blinded, randomized PoC trial in various cancers

A Phase 2a, double-blind, placebo-controlled, multi-center, randomized study evaluating LSTA1 when added to standard of care (SoC) versus standard of care alone in subjects with advanced solid tumors

- **Sponsor:** Lisata
- **Timing:** Trial initiation target 2Q2023



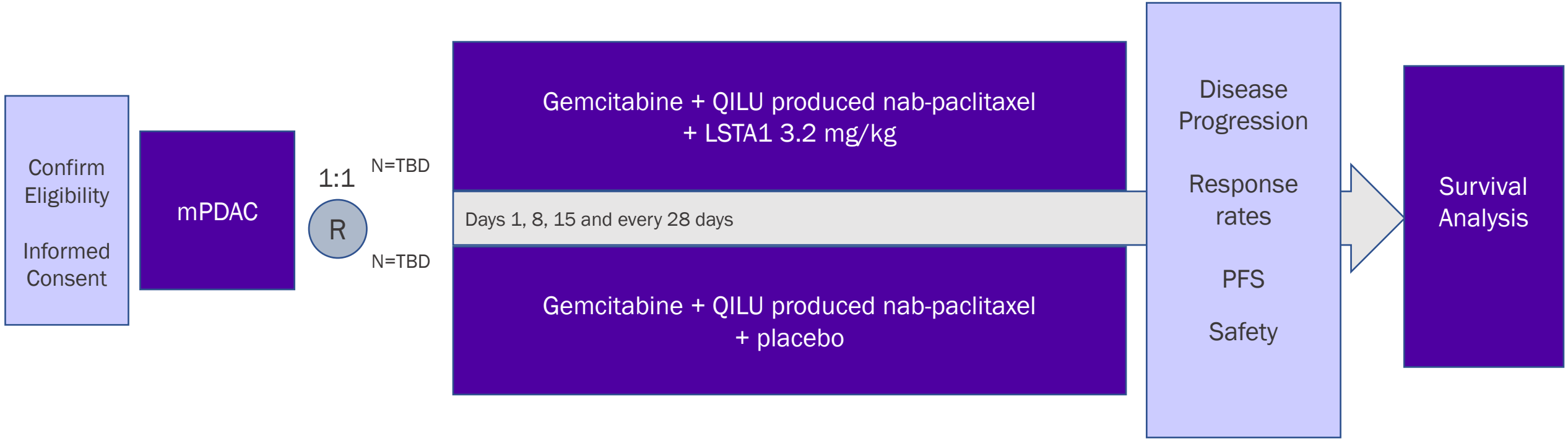
Phase 2b blinded, placebo-controlled trial in mPDAC in China

Sponsor/Partner	▪ QILU Pharmaceutical (funds all development in China)
Objective	▪ Further evaluate safety and therapeutic efficacy of LSTA1 when added to SoC in Chinese patients with mPDAC
Design	▪ Phase 2b, double-blind, placebo-controlled, randomized study evaluating LSTA1 + SoC (QILU-produced nab-paclitaxel and gemcitabine) vs. placebo + SoC
Study Size	▪ TBD
Endpoints	▪ Objective response rate, progression free survival, overall survival ▪ Safety
Timing	▪ Trial initiation target 3Q2023

Phase 2b blinded, placebo-controlled trial in mPDAC in China

A Phase 2b, double-blind, placebo-controlled, randomized, study evaluating LSTA1 when added to standard of care (nab-paclitaxel and gemcitabine) vs. standard of care alone and placebo in Chinese subjects with metastatic pancreatic ductal adenocarcinoma

- **Sponsor/Partner:** QILU Pharmaceutical (funds all development in China)
- **Timing:** Trial initiation target 3Q2023



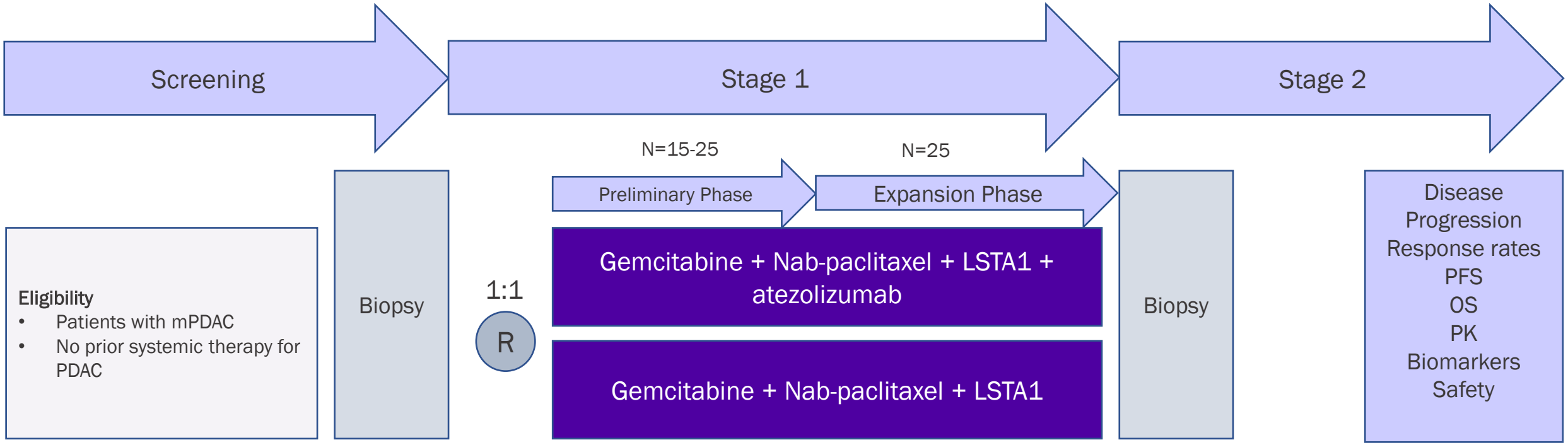
MORPHEUS: Phase 1b/2 mPDAC Umbrella trial

Sponsor/Partner	▪ Roche/Lisata co-funding trial; Roche operationalizing trial ▪ Roche supplying atezolizumab
Objective	▪ Evaluate safety and effectiveness of LSTA1 in combination with gemcitabine and nab-paclitaxel ± atezolizumab in mPDAC
Design	▪ Phase 1b/2, open-label, randomized umbrella study in patients with mPDAC evaluating the safety, PK and efficacy of immunotherapy-based treatment combinations in patients with mPDAC who have received no prior therapy
Study Size	▪ Preliminary phase: 12-25 ▪ Expansion phase: 25
Endpoints	▪ Objective response rate, progression free survival, overall survival, duration of response ▪ Safety, tolerability, PK, biomarkers
Timing	▪ Trial initiation target 2Q2023

MORPHEUS: Phase 1b/2 mPDAC Umbrella trial

A Phase 1b/2, open-label, randomized umbrella study in patients with mPDAC evaluating the safety, PK, and efficacy of immunotherapy-based treatment combinations in patients with mPDAC who have received no prior

- **Sponsor/Partner:** Roche Pharmaceuticals
- **Roche/Lisata:** co-fund trial; Roche operationalizes trial
- **Timing:** Trial initiation target 2Q2023



iLSTA: Phase 1b/2a trial in locally advanced PDAC with chemo & IO

Sponsor/Partner	▪ WARPNINE, Inc. (registered charity in Australia) is funding trial ▪ Lisata providing study drug
Objective	▪ Evaluate safety and therapeutic effect of LSTA1 in combination with IO & Chemo in locally advanced PDAC; determine if inoperable tumors can become operable
Design	▪ Phase 1b/2a proof-of-concept safety and early efficacy study of LSTA1 in combination with durvalumab, gemcitabine and nab-paclitaxel, as first-line treatment in *locally advanced* pancreatic adenocarcinoma
Study Size	▪ N=30
Endpoints	▪ Safety and tolerability; 28-day DLTs ▪ Objective response rate, PFS, OS, duration of response, immune cell infiltration
Timing	▪ Trial initiation target 1Q2023

iLSTA: Phase 1b/2a trial in locally advanced PDAC with chemo & IO

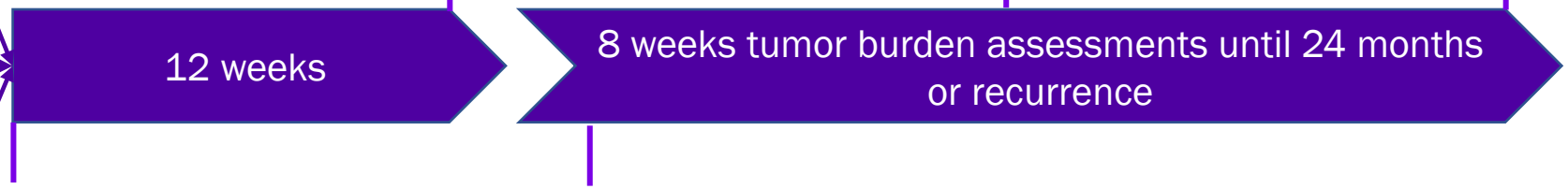
A Phase 1b/2a proof-of-concept safety and early efficacy study of LSTA1 in combination with durvalumab, gemcitabine and nab-paclitaxel, as first-line treatment in *locally advanced* pancreatic adenocarcinoma

- **Sponsor:** WARPNINE, Inc. funding trial
- **Timing:** Trial initiation target 1Q2023

Cohort 1
Gemcitabine + nab-paclitaxel
N=5

Cohort 2
Gemcitabine + nab-paclitaxel + LSTA1
N=5

Cohort 3
Durvalumab + Gemcitabine + nab-paclitaxel + LSTA1
N=10-20



Biopsy
Screening

Primary Endpoint

Biopsy
Week 12

12 month
Follow-up

24 months
Follow-up completion

Tumor burden assessment at screening, cycle 2, and then 8-weekly thereafter. Patients are treated with 28-day cycles until progression or death
Endpoints: safety, DLT, ORR, PFS, OS, DoR, immune profiling

iGoLSTA: Phase 1b/2a trial in locally advanced GEAC with chemo & IO

Sponsor/Partner	▪ WARPNINE, Inc. (registered charity in Australia) is funding trial ▪ Lisata providing study drug
Objective	▪ Evaluate safety and therapeutic effect of LSTA1 in combination with IO & Chemo in locally advanced GE AdenoCa; determine if inoperable tumors can become operable
Design	▪ Phase 1b/2a Proof-of-concept safety and early efficacy study of LSTA1 in combination with nivolumab and FOLFIRINOX, as first-line treatment in *locally advanced* gastroesophageal adenocarcinoma
Study Size	▪ N=30
Endpoints	▪ Safety and tolerability; 28-day DLTs ▪ Objective response rate, PFS, OS, duration of response, immune cell infiltration
Timing	▪ Trial initiation target 2Q2023

iGoLSTA: Phase 1b/2a trial in locally advanced GEAC with chemo & IO

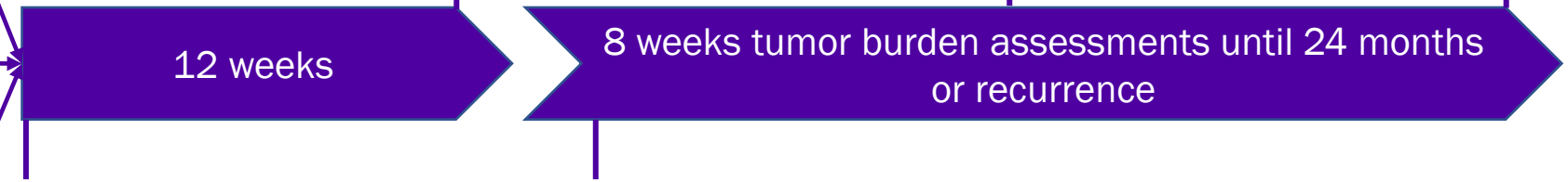
A Phase 1b/2a Proof-of-concept safety and early efficacy study of LSTA1 in combination with nivolumab and FOLFIRINOX as first-line treatment in *locally advanced* gastroesophageal adenocarcinoma

- **Sponsor:** WARPNINE, Inc. funding trial
- **Timing:** Trial initiation target 2Q2023

Cohort 1
FOLFIRINOX
N=5

Cohort 2
FOLFIRINOX
+ LSTA1
N=5

Cohort 3
Nivolumab + FOLFIRINOX + LSTA1
N=10-20



Biopsy
Screening

Primary Endpoint

Biopsy
Week 12

12 month
Follow-up

24 months
Follow-up completion

Tumor burden assessment at screening, cycle 2, and then 8-weekly thereafter. Patients are treated with 14-day cycles until progression or death

Phase 2a trial of LSTA1 with SOC in first-line GBM

Sponsor/Partner	▪ Tartu University Hospital (Investigator initiated trial in Estonia) ▪ Lisata providing study drug and funding trial
Objective	▪ Evaluate safety, tolerability, and therapeutic effect of LSTA1 in combination with standard-of-care (temozolomide) in patients with previously untreated Glioblastoma Multiforme
Design	▪ Phase 2a proof-of-concept, double-blind, placebo-controlled, randomized study evaluating LSTA1 when added to standard of care (temozolomide) versus SoC and placebo in subjects with newly diagnosed Glioblastoma Multiforme (GBM)
Study Size	▪ N=40
Endpoints	▪ Safety, tolerability ▪ ORR, PFS, OS, Disease control rate
Timing	▪ Trial initiation target 2Q2023

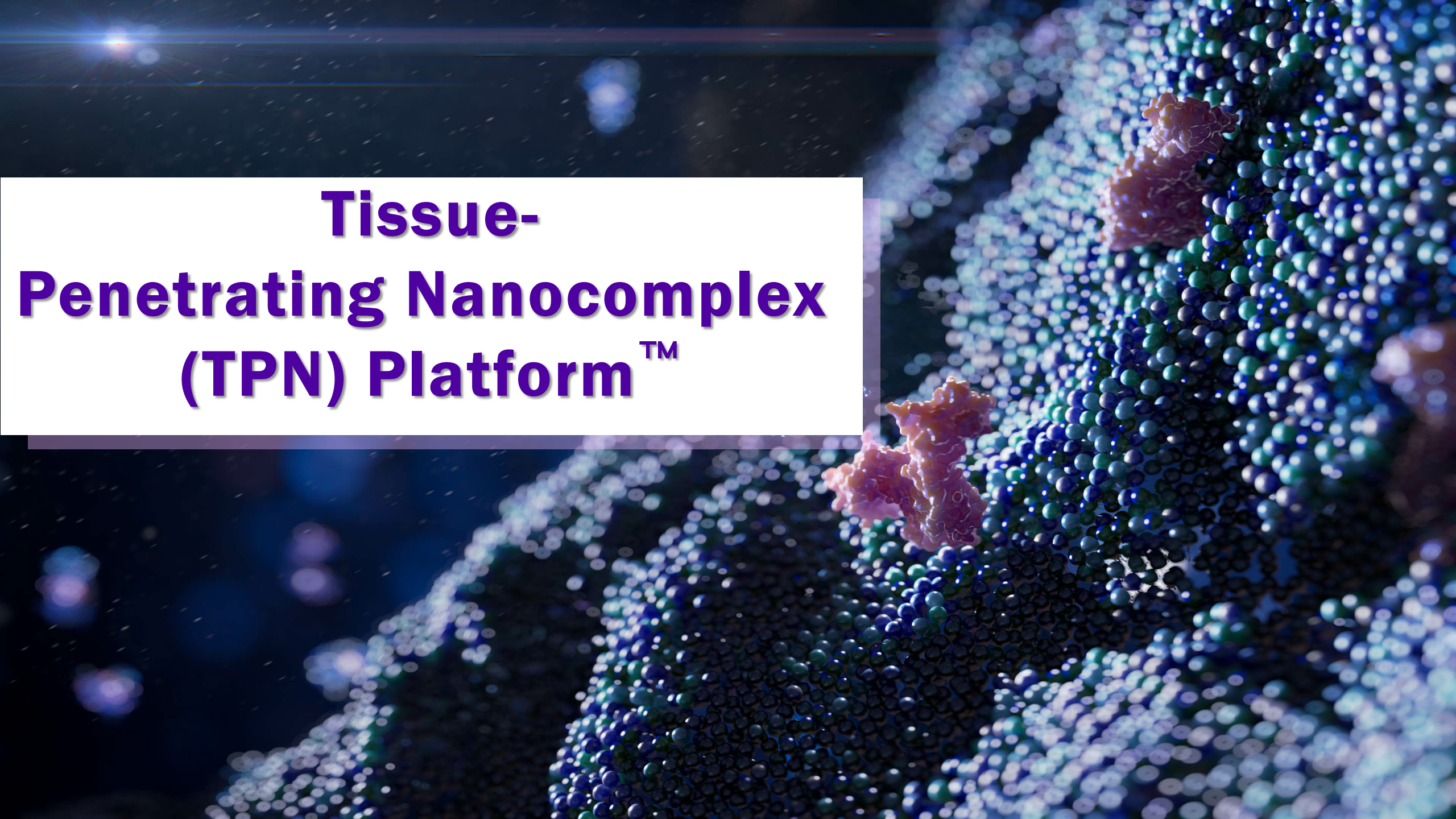
Phase 2a trial of LSTA1 with SOC in first-line in GBM

A Phase 2a proof-of-concept double-blind, placebo-controlled, randomized, proof-of-concept study evaluating LSTA1 when added to standard of care (temozolomide) versus temozolomide and matching LSTA1 placebo in subjects with newly diagnosed Glioblastoma Multiforme (GBM)

- **Sponsor:** Tartu University Hospital; Estonia
- **Funding:** Lisata
- **Timing:** Trial initiation target 2Q2023

Phase 1b/2a open-label trial in mPDAC in Japan

Sponsor/Partner	▪ Tsukuba Clinical Research & Development Organization (T-CReDO) ▪ Lisata providing study drug; AMED Grant funding trial in Japan
Objective	▪ Evaluate safety, pharmacokinetics and preliminary efficacy of various doses of LSTA1 added to SoC in Japanese patients with mPDAC
Design	▪ Phase 1b/2a open-label dose-ranging study in locally advanced and mPDAC patients of Japanese ethnicity testing SoC chemotherapy (gemcitabine + nab-paclitaxel) in combination with LSTA1
Study Size	▪ Up to 20 subjects
Endpoints	▪ Safety, tolerability ▪ ORR, PFS, OS, Disease control rate
Timing	▪ Trial initiation target 2Q2023



Tissue-Penetrating Nanocomplex (TPN) Platform™

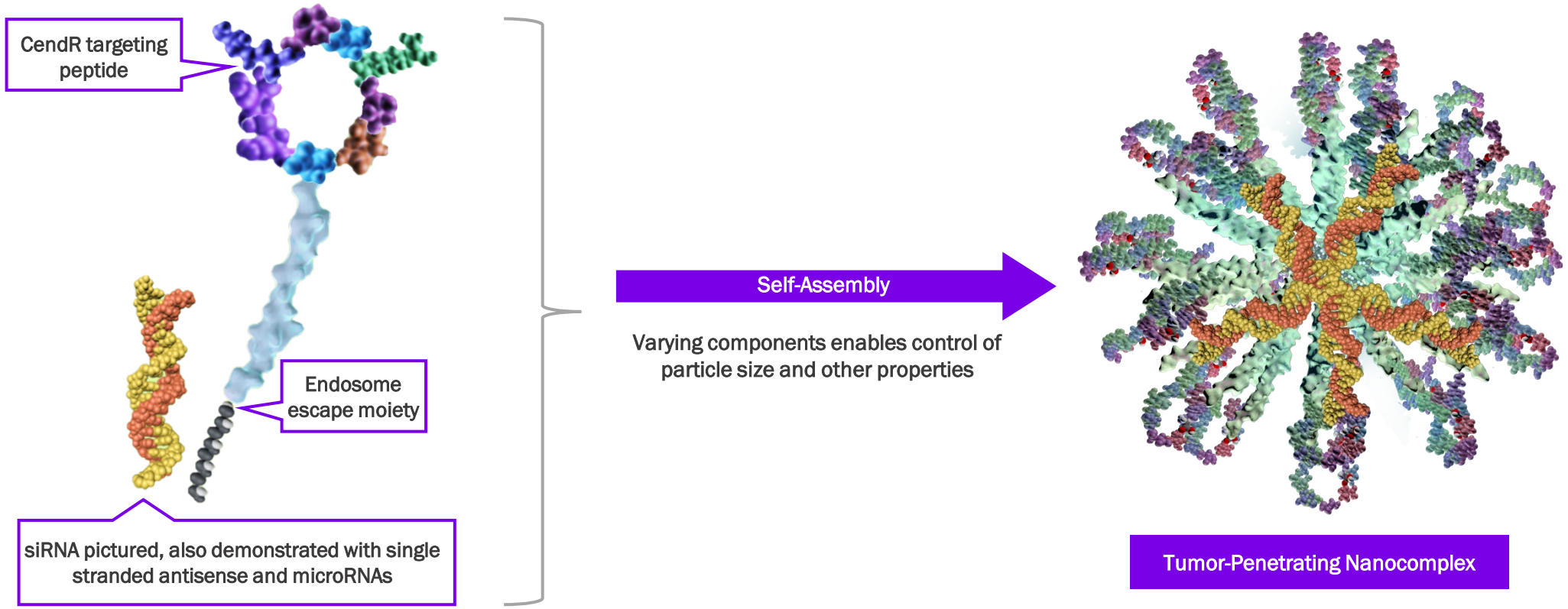
TPN Platform™ for nucleic acid medicine delivery to solid tumors

DELIVERY ISSUES LIMIT ANTICANCER APPLICATIONS OF RNA-BASED THERAPEUTICS

- Early antisense oligonucleotide (ASO) and small interfering RNA (siRNA) anticancer programs failed to translate preclinical efficacy to clinical success
  - Tumor stroma serves as primary impediment to effective delivery
  - High doses to drive intra-tumoral concentration resulted in on- and off-target side effects, including, but not limited to, clotting factors and renal toxicities
  - >95% of ASO and siRNA drugs sequestered in endosomes
- Passive targeting (i.e., lipid nanoparticles) appears ineffective
- Non-targeted cell-/tissue-penetrating moieties can disrupt unintended tissues
- Moieties to target tumor increase bulk and may exacerbate problem of transiting stroma

Targeted approach to transit tumor stroma may enable effective solid tumor treatment

TPN Platform™ to address nucleic acid tumor delivery challenges



- Peptides provide tumor and/or immune cell targeting
- Unique CendR pathway activation to penetrate stroma and deliver efficacious drug concentrations to all layers of solid tumors
- Technologies to evade endosome sequestration
- Targeted tissue penetration drives dose- and toxicity-sparing potency
- Ease of synthesis vs. biologics such as virus-like particles, Ab-conjugates or exosomes

CD34+ Cell Therapy

Platform Technology

HONEDRA®

[LSTA12 (formerly known as CLBS12)]

Critical Limb Ischemia

(Japan)

SAKIGAKE designated – Japan

Orphan Drug designated (Buerger's disease) - USA

Advanced Therapeutic Medicinal Product (ATMP) designated – EU

Indication: critical limb ischemia (CLI)

- Severe arterial obstruction impeding blood flow in the lower extremities
  - Includes severe rest pain and non-healing ulcers
- Buerger's disease (BD: inflammation in small and medium arteries) is a form of CLI associated with a history of heavy smoking (orphan population)
- Patients with no-option CLI have persistent symptoms even after bypass surgery, angioplasty, stenting and available pharmacotherapy
- CLI has been categorized as Rutherford Classification Stages[1]
  - Stages: 1-3 (mild to severe claudication); 4 (rest pain); 5 (minor tissue loss); 6 (major tissue loss)
  - CLI patients are at high risk of amputation and death with increasing Rutherford score
- Multi-million-dollar opportunity with an increasing prevalence of arteriosclerosis obliterans (ASO) and CLI in Japan
- Positive previously published Phase 2 results in Japan[3,4]

[1] Reinecke H., European Heart Journal, 2015 Apr 14;36(15):932-8
[3] Kinoshita et al, Atherosclerosis 224 (2012) 440-445
[4] Losordo, D.W. et al, Circulation 2012; 5(6):821-830

HONEDRA® registration-eligible study in Japan

Sponsor/Partner	▪ Lisata
Objective	▪ Demonstrate a trend toward efficacy and acceptable safety of HONEDRA® in patients with Critical Limb Ischemia (CLI) and Buerger's disease (BD) to qualify for consideration of early conditional approval under Japan's Regenerative Medicine Development Guidelines
Design	▪ A prospective, open label controlled, randomized, multicenter study to assess the efficacy and safety of HONDEDRA® in patients with CLI with a single-arm substudy to assess safety and potential efficacy in patients with CLI due to BD.
Study Size	▪ Target: N=35 ▪ Actual: N=33 (N=26 CLI, N=7 BD)
Endpoints	▪ Time to continuous CLI-free status (2 consecutive monthly visits, adjudicated independently) ▪ Time to first CLI-free status, change in Rutherford category, amputation free survival
Timing	▪ Trial completed May 2022

HONEDRA® development next steps

- Combined CLI and BD interim data suggest trend toward efficacy and acceptable safety
  - HONEDRA® was safe and well tolerated
  - Treatment group reached CLI-free status faster than SoC group (primary endpoint)
- Consultation process with the Pharmaceuticals & Medical Devices Agency (PDMA) is underway in support of the planned filing of a Japan New Drug Application

LSTA201

(formerly known as CLBS201)

Diabetic Kidney Disease

LSTA201 in diabetic kidney disease (DKD)

Development Rationale

- The stages of CKD are determined by GFR rate, an indication of how well the kidneys are filtering blood[1]
- CKD is often associated with progressive microvasculature damage and loss[2,3]
- Preclinical studies show that microcirculation replenishment improves kidney function
- CD34+ cells are promoters of new capillary growth, improving the microvasculature
- Therapies currently available and/or expected to be available over the next 5–10 years slow the progression of CKD/DKD
- A regenerative DKD therapy (i.e., one that reverses disease course) could represent a medical and pharmacoeconomic breakthrough

Clinical Strategy

- To demonstrate that CD34+ cell mobilization, donation and administration can be tolerated by patients with CKD and type 2 diabetes
- To demonstrate that regeneration of the kidney microcirculation using CD34+ cell therapy improves kidney function

[1] 2020 Dallas Nephrology Associates.
[2] Chade AR. (2017) Small Vessels, Big Role: Renal Microcirculation and Progression of Renal Injury. Hypertension; 69(4):551-563.
[3] *Zuk, Anna & Bonventre, Joseph. (2016). Annual Review of Medicine. 67. 293-307. 10.1146/annurev-med-050214-013407.*

LSTA201: Phase 1b open-label, proof-of-concept study in U.S.

Sponsor/Partner	▪ Lisata
Objective	▪ To evaluate the safety, tolerability, and preliminary efficacy of LSTA201 (autologous CD34+ cells) in subjects with chronic kidney disease (CKD) and type 2 diabetes mellitus (T2DM)
Design	▪ A Phase 1 open-label, proof-of-concept study to evaluate the safety and efficacy of CLBS201 (autologous peripheral blood-derived CD34+ cells) in subjects with chronic kidney disease and type 2 diabetes mellitus
Study Size	▪ N=6 (1 sentinel - unilateral inj., 1 sentinel - bilateral inj., 4 bilateral inj. patients)
Endpoints	▪ Safety and tolerability ▪ Change in eGFR (as determined using the CKD-EPI equation) compared to baseline, assessed at 6 months ▪ Change in urine albumin-to-creatinine ratio (UACR) and urine protein-to-creatinine ratio (UPCR) from baseline to 3 and 6 months
Timing	▪ Target data 1Q23

Anticipated milestones

Oncology (LSTA1) Programs

2023

- iLSTA Ph1b/2 trial initiation target 1Q23
- Ph2a Basket trial initiation target 2Q23
- MORPHEUS Ph1b/2 trial initiation target 2Q23
- iGoLSTA Ph1b/2 trial initiation target 2Q23
- Ph2a GBM trial initiation target 2Q23
- Ph1 trial of LSTA1 + HIPEC initiation target 2Q23
- QILU Ph1b/2 preliminary data expected 1H23
- QILU Ph2b trial (China) initiation target 3Q23
- CENDIFOX Ph1b/2 enrollment completion target 4Q23
- ASCEND Ph2b enrollment completion target late 2023/early 2024

2024

- iLSTA Ph1b/2 trial enrollment completion target 1Q24
- iLSTA Ph1b/2 trial preliminary data expected 2Q24
- iGoLSTA Ph1b/2 trial enrollment completion target 2Q24
- iGoLSTA Ph1b/2 trial preliminary data expected 3Q24
- Ph2a Basket trial enrollment completion target 3Q24
- MORPHEUS Ph1b/2 trial enrollment completion target 4Q24
- QILU Ph2b trial enrollment completion target 4Q24
- Ph2a GBM trial enrollment completion target 4Q24
- CENDIFOX Ph1b/2 complete data expected 2024
- Ph1 TPN development candidate targeted 2024
- TPN development candidate ID target 2H2024

Ischemic Disease (CD34+ cell therapy) Programs

- LSTA201 topline data targeted 1Q23
- HONEDRA® PMDA formal clinical consultation target 2Q23
- HONEDRA® pre-JNDA pre-consultation target 3Q23

Key financial information

Cash & Investments: As of September 30, 2022	$75.5 million
Nine months ended September 30, 2022, Operating Cash Burn[1]:	$17.0 million
Debt as of September 30, 2022:	$0
Common Shares Outstanding: As of September 30, 2022	7.9 million shares
Options Outstanding as of September 30, 2022: Exercise Price: $0.02 - $4.22 = 1,127,000 shares Exercise Price: > $4.22 = 272,000 shares	1.4 million shares[2]
Warrants Outstanding as of September 30, 2022: Weighted Average Exercise Price: $42.57	1.4 million shares

[1] Excludes $2.3 million in net proceeds from sale of New Jersey NOLs
[2] Includes 1.2 million options assumed through the merger at a weighted average exercise price of $3.77

Investment highlights

NOVEL TECHNOLOGY TO IMPROVE EFFICACY OF ANTI-CANCER DRUGS FOR SOLID TUMORS

EXISTING CAPITAL EXPECTED TO FUND ANTICIPATED MILESTONES | EXISTING STRATEGIC PARTNERSHIPS

- Nasdaq-listed with a focused mid-late-stage clinical development pipeline and a promising preclinical platform
- Stable finances: ~$75.5 million cash & investments as of 9/30/22; no debt
- Proprietary field-leading technology in underserved global indications backed by a strong IP portfolio
- Platform technology “validated” by strong existing partnerships with potential for many others
- Multiple potential value creating data and business development events projected in the next 12-24 months
- Seasoned management with domain expertise along with big pharma and emerging pharma experience

*SoC = standard-of-care

LISATA THERAPEUTICS

Targeted Therapy **Delivered**

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