

Targeted Therapy Delivered

David J. Mazzo, Ph.D. Chief Executive Officer

LD Micro Main Event XV | October 2022 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 Nasdag 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 ANTICIPATED MILESTONES | EXISTING STRATEGIC PARTNERSHIPS



Nasdaq-listed with a focused mid-late-stage clinical development pipeline and a promising preclinical platform



Stable finances: ~\$76 million cash & investments as of 9/15/22; 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 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

- Addressing key challenges to delivery of nucleic acid-based drugs to treat solid tumor cancers
- Clinical development candidate identification targeted for 2023



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

- CD34+ cells repeatedly demonstrated vascular repair in multiple organs and have been clinically studied in a variety of ischemic diseases by numerous investigators across many sites and countries
 - Consistent results of rigorous clinical studies comprising >1,000 patients published in peer reviewed journals¹⁻⁴
 - Single treatments elicited durable therapeutic effects
 - Treatment generally well-tolerated



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

Clinical development pipeline with broad therapeutic reach



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

- Ongoing multiple studies in first-line, metastatic pancreatic ductal adenocarcinoma (mPDAC) in combination with standard-of-care (SoC) chemotherapy
- Basket trial initiation planned in 2023 expanding development to other solid tumors and additional anti-cancer drug combinations, including immunotherapies
- Granted Fast Track as well as Orphan Drug Designation 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 process toward JNDA
- CLBS201 proof-of-concept (PoC) results expected in 1Q23
- XOWNA® development will continue if a partner is identified that can contribute the necessary capital

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
- \$10 million payment due to Lisata for proceeding to Phase 3 in mPDAC in China



Clinical development collaboration with Roche in mPDAC

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



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



Ongoing discussions support goal to partner CD34+ programs

Robust development portfolio funded to next milestones

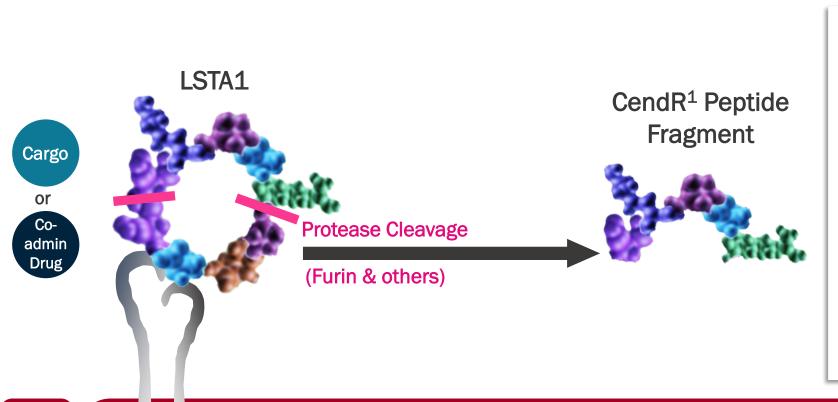
Sponsor/Funding Partner [Development Activity Venue]	Trial Products	Indication	Development Stage	Next Development Milestone
		CendR Platform [™] Programs		
Lisata/AGITG [Australia/New Zealand]	Gemcitabine/nab-paclitaxel with LSTA1 or placebo	First-Line Metastatic Pancreatic Ductal Adenocarcinoma (mPDAC)	Phase 2b (ASCEND)	Enrollment completion target 4Q23 First data expected 2024
Qilu [China]	Gemcitabine/nab-paclitaxel + LSTA1		Phase 1b/2	Preliminary data expected 2H23
Roche/Lisata [Multi-national]	Gemcitabine/nab-paclitaxel/LSTA1 ± atezolizumab		Phase 1b/2 (MORPHEUS)	Trial initiation target 1Q23
KUCC - IIT [United States]	LSTA1 + FOLFIRINOX + panitumumab*	Pancreatic, Colon and Appendiceal Cancers	Phase 1b/2 (CENDIFOX)	Enrollment completion target 4Q23 Data expected 2024
Lisata [United States]	SoC with LSTA1 or placebo	Various Solid Tumors	Phase 2a (Basket trial)	Trial initiation planned 1Q/2Q23
Lisata [United States]	TPN development candidate	Solid Tumor Cancer TBD	Preclinical	Development candidate ID target 2023 Phase 1 planned for 2024
		CD34+ Platform Programs		
Lisata [United States]	HONEDRA® (LSTA12)	Critical Limb Ischemia and Buerger's Disease	Registration eligible	PMDA consultation underway
Lisata [Japan]	LSTA201	Diabetic Kidney Disease	Phase 1b - PoC	Data expected 1Q23
Lisata [United States]	XOWNA® (LSTA16)	Coronary Microvascular Dysfunction	Phase 2b (FREEDOM)	Partner sought to advance development

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





LSTA1 tumor targeting and microenvironment modifying MoA



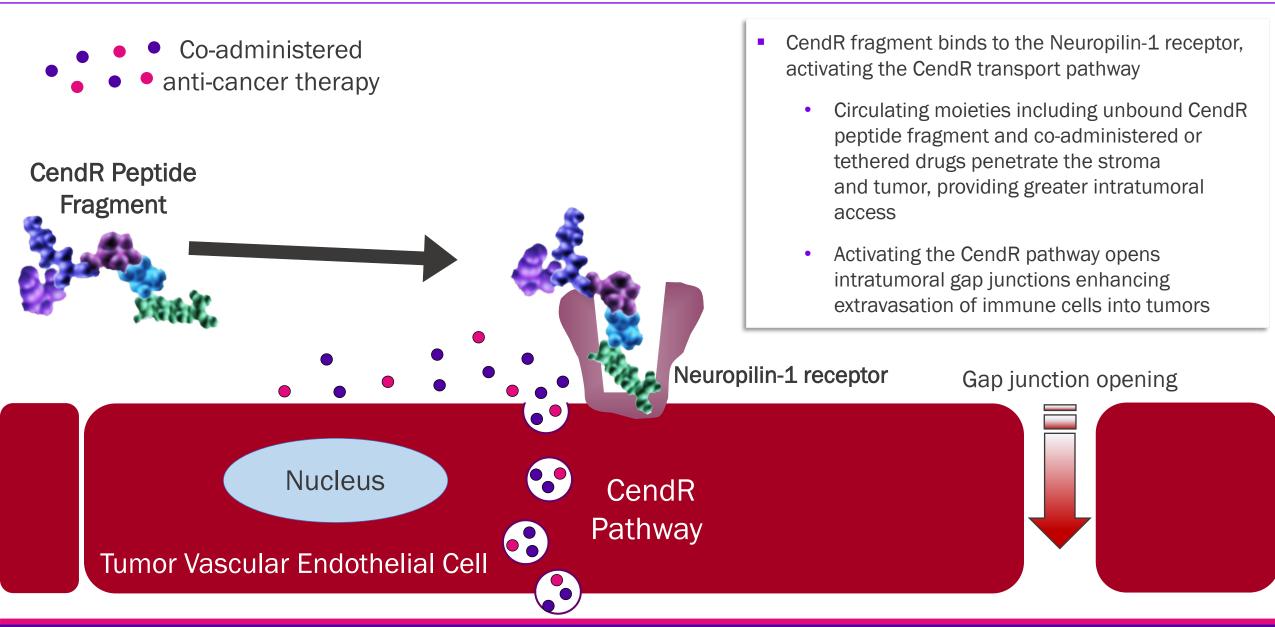
- LSTA1 9 amino acid cyclic peptide; high binding specificity and affinity to ανβ3/β5 integrins that are selectively expressed on:
 - Tumor vascular endothelium
 - Cancer-associated fibroblasts, a major component of tumor stroma
 - Intratumoral immunosuppressive cells
- Once bound to ανβ3/β5 integrins, LSTA1 is cleaved by proteases (furin and others) that are up-regulated in tumors, releasing a C-end Rule (CendR) linear peptide fragment



¹C-end Rule



LSTA1 tumor targeting and microenvironment modifying MoA (cont.)

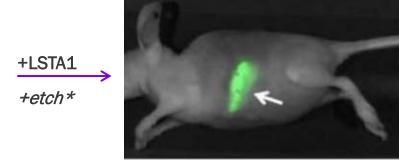


LSTA1 selectively and efficiently facilitates intratumoral delivery

Pancreatic ductal adenocarcinoma (arrow) imaging with Fluorescent Quantum Dots (FQDs) with and without LSTA1



 FQD alone followed by etching solution to quench fluorescence in circulation



+etch*

- FQD + LSTA1 followed by etching solution
 - LSTA1 enabled selective tumor penetration of FQDs

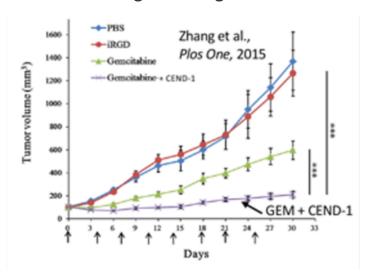
² Liu, Braun et al., Nature Comm. 2017.



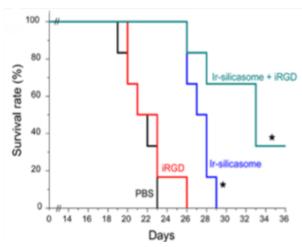
¹ Braun et al., Nature Mater. 2014.

Increased tumor penetration enhances antitumor activity across range of treatment modalities

Lung cancer + gemcitabine

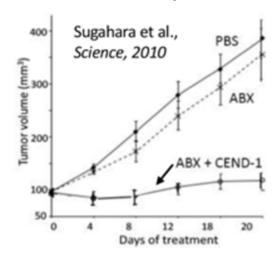


Pancreatic ductal adenocarcinoma

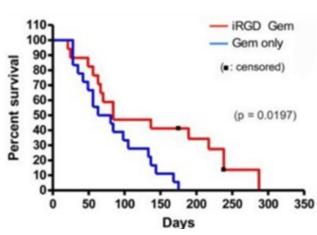


Orthotopically transplanted KPC PDAC tumors CEND-1 + irinotecan nanoparticles (i.v. co-admin)

Breast cancer + nanoparticle Abraxane

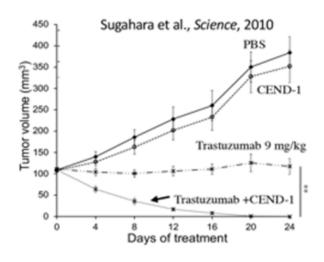


Pancreatic ductal adenocarcinoma

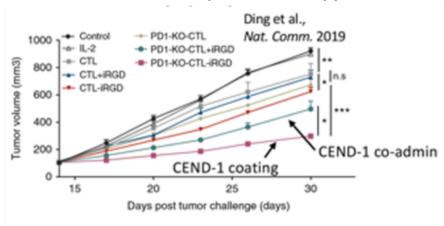


KPC mice genetically engineered to develop PDAC CEND-1 + gemcitabine (i.v. co-admin)

Breast cancer + antibody (Herceptin®)



GI cancer + adoptive cell therapy



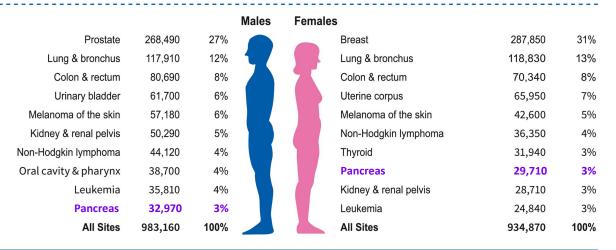
¹Hurtado de Mendoza et al, *Nature Comms*, 2021. ²Liu X et al., J Clin Invest, 2017.



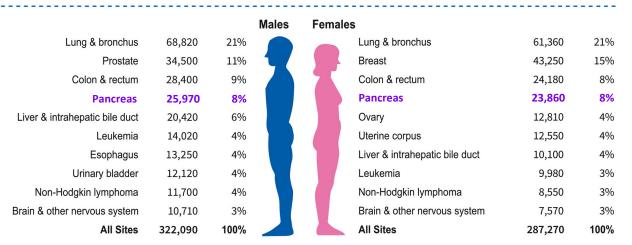
Treatment of solid tumors represents a large unmet clinical need

Estimated New Cancer Cases and Deaths in the United States, 2022¹

Estimated New Cases



Estimated Deaths



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

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



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 months²)
 - Median Overall Survival 13.2 months (vs. 8.5 months²)

² Von Hoff D, et al., New England Journal of Medicine, 2013.



¹ Dean A, et al., The Lancet Gastroenterology & Hepatology, 2022.

Ongoing and Planned LSTA1 Clinical Trials



ASCEND: Phase 2b randomized, double-blind trial in AUS and NZ

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
Design	 Phase 2b randomized, double-blind study in mPDAC
Study Size	 ~125 subjects (~40 sites planned in Australia, New Zealand and, possibly, Ireland)
Endpoints	 Primary: Progression Free Survival Secondary: AEs, SAEs, Overall Survival, Objective Tumor Response Rate
Control/Comparator	 SoC chemotherapy (gemcitabine + nab-paclitaxel) with LSTA1 or placebo
Objective	 Corroborate Phase 1b results in a placebo-controlled study Possibly determine if a second dose of LSTA1 further improves patient outcomes
Timing	 Enrollment completion target late 2023/early 2024 Earliest possible data 2024

LSTA1 Phase 1b/2 trial in China

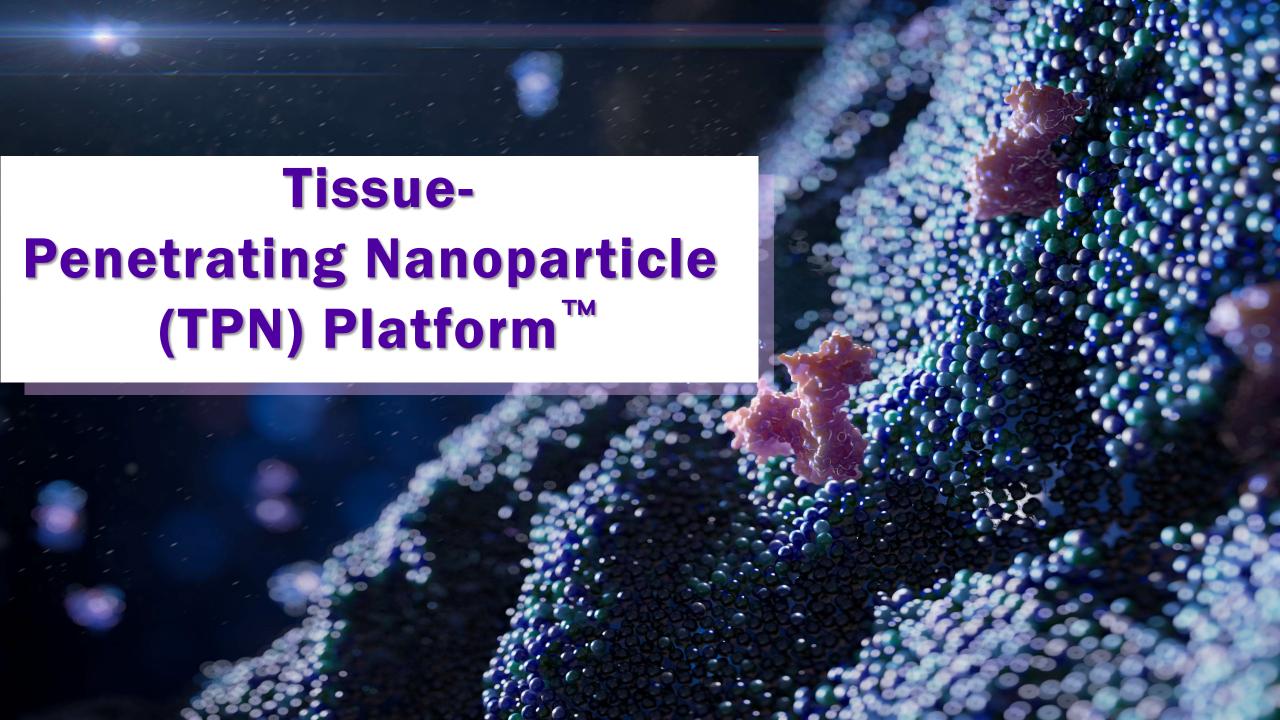
Sponsor/Partner	QILU Pharmaceutical (funds all development in China)
Design	 Phase 1b/2 open-label study in advanced mPDAC patients of Chinese ethnicity
Study Size	■ 50 subjects (~15 sites)
Endpoints	 Primary: AEs, SAEs, Objective Response Rate, Duration Response Rate, Disease Control Rate, Overall Survival,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

CENDIFOX: Phase 1b/2 trial in U.S.

Sponsor/Partner	 University of Kansas Medical Center (Investigator initiated trial) KUCC funded; Lisata provides LSTA1
Design	 Phase 1b/2 open-label study in pancreatic, colon and appendiceal cancers
Study Size	 50 subjects
Endpoints	 Primary: Drug Safety Secondary: Overall Survival, Disease-free Survival, Overall Response Rate, RO Resection Rate, Pathological Response Rate
Control/Comparator	 SoC chemotherapy (neoadjuvant FOLFIRINOX-based therapies with LSTA1)
Objective	 Evaluate the safety of LSTA1 in combination with neoadjuvant FOLFIRINOX-based therapies for the treatment of pancreatic, colon, and appendiceal cancers
Timing	 Enrollment completion target 4Q23 Data readouts possible throughout 2023 with complete results expected 2024

Planned LSTA1 Phase 2 proof-of-concept basket trial

Sponsor/Partner	 Lisata
Design	 Phase 2, randomized, double-blind, placebo-controlled, proof-of-concept trial in multiple advanced solid tumor types (U.S.) with corresponding standards of care
Study Size	 160 (assuming 4 tumor types)
Endpoints	 Primary: OS Secondary: Safety, ORR, PFS
Control/Comparator	 Tumor-type specific SoC chemotherapy in combination with LSTA1 or placebo
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: 1Q/2Q23



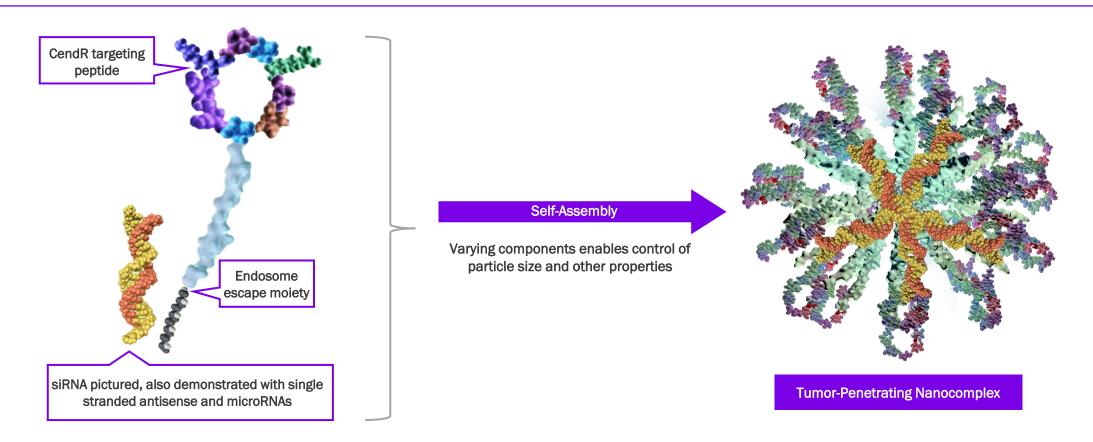
TPN Platform[™] for nucleic acid medicine delivery to solid tumors

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 intratumoral 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[™] addresses 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





XOWNA® development status

Summary

- Coronary Microvascular Dysfunction (CMD) represents a large unmet medical need
 - Deficient heart microvasculature without large vessel obstructive disease causing frequent, severe angina
 - Not treatable by stents/bypass; responds poorly or not at all to available pharmacotherapies
 - U.S. CMD population potentially treatable by XOWNA® ranges from ~415,000 to ~1.6 million patients¹
 - Compelling Phase 2a (published ESCaPE-CMD trial) results show the potential of XOWNA® to significantly improve symptoms of CMD
 - Phase 2b (FREEDOM) trial impacted directly and indirectly by COVID pandemic resulted in insurmountable enrollment rate challenges and population heterogenicity; trial enrollment suspended in May 2022 after ~1/3 of the intended subjects enrolled

Next Steps

- Analysis of results of FREEDOM Trial subjects completing 6-month follow-up along with KOL input suggests that execution of a redesigned FREEDOM-like trial is an appropriate next step
 - Cost of such trial is financially challenging in a "go-it-alone" strategy
- XOWNA® development will continue if a partner is identified that contributes the necessary capital

¹ Marinescu MA, et al. JACC Cardiovasc Imaging. 2015;8:210-220





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 Stages¹
 - 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}

⁴ Losordo, D.W. et al, Circulation 2012; 5(6):821-830



¹ Reinecke H., European Heart Journal, 2015 Apr 14;36(15):932-8

³ Kinoshita et al, Atherosclerosis 224 (2012) 440-445

HONEDRA® registration-eligible study in Japan

Primary Endpoint	 Time to continuous CLI-free (2 consecutive monthly visits, adjudicated independently)
Target Study Size	 35 subjects; recruited across 12 centers in Japan 30 with no-option CLI (ASO) + 5 with BD; all Rutherford category 4 or 5
Dose	 Up to 10⁶ cells/kg of HONEDRA[®] (LSTA12)
Control/Comparator	 SoC: wound care plus drugs approved in Japan Including antimicrobials, antiplatelets, anticoagulants and vasodilators
Mode of Administration	 Intramuscular, 20 injections in affected lower limb in a single treatment
Objective	 Demonstrate a trend toward efficacy and acceptable safety to qualify for consideration of early conditional approval under Japan's Regenerative Medicine Development Guidelines

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 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 blood¹
- 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 will 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

³ Zuk, Anna & Bonventre, Joseph. (2016). Annual Review of Medicine. 67. 293-307. 10.1146/annurev-med-050214-013407.



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.

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

Endpoints	 Change in eGFR 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
Study Size	• 6 patients (1 sentinel - unilateral inj., 1 sentinel - bilateral inj., 4 bilateral inj. patients)
Dose	■ 1 x 10 ⁶ – 300 x 10 ⁶ cells administered as a one-time infusion
Patient Population	Stage 3b DKD
Design	Open-label, proof-of-concept Phase 1b study
Mode of Administration	 Intra-arterial injection into one or both renal arteries
Timing	 Top-line data target for all subjects: 1Q23

Anticipated milestones

TPN development candidate ID target 2H2023 **CENDIFOX** data expected 2024 Qilu Ph1b/2 Ph2a Basket **CENDIFOX ASCEND MORPHEUS** (China) **CENDIFOX** study of LSTA1 enrollment enrollment Ph1b/2 target preliminary preliminary **ASCEND** first data target initiation completion completion Ph2b ASCEND data 2H2023 initiation 1023 data expected expected 2024 target 4Q23 10/2023 **target 4023** trial initiated 2H23 2022 2024 2023 **HONEDRA®** LSTA201 topline data HONEDRA® PMDA formal clinical HONEDRA® pre-JNDA Oilu data PMDA clinical targeted 1023 consultation targeted 2023 pre-consultation targeted 3023 expected 2024 pre-consultation

underway

HONEDRA® PMDA non-clinical consultation 2023

TPN development candidate Ph1 targeted 2024

- Oncology (LSTA1) Programs
- Ischemic Disease (CD34+ cell therapy) Programs



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: ~\$76 million cash & investments as of 9/15/22; 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





Targeted Therapy Delivered

Investor Relations Contact:

John D. Menditto VP, IR & Corporate Communications o: (908) 842-0084 | e: jmenditto@caladrius.com

Nasdaq: LSTA | www.lisata.com

