

TRANSCODE

THERAPEUTICS™

The RNA Oncology Company
NASDAQ Symbol: RNAZ

'Reimagining RNA To Provide Cancer Patients With A Gift Of Time'

Presenter: Michael Dudley, CEO, Co-Founder

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Statements in this presentation contain “forward-looking statements” that are subject to substantial risks and uncertainties. Forward-looking statements contained in this presentation may be identified by the use of words such as “anticipate,” “expect,” “believe,” “will,” “may,” “should,” “estimate,” “project,” “outlook,” “forecast” or other similar words, and include, without limitation, statements regarding TransCode Therapeutics, Inc.’s expectations regarding projected timelines of clinical trials, and expectations regarding current or future clinical trials. Forward-looking statements are based on TransCode Therapeutics, Inc.’s current expectations and are subject to inherent uncertainties, risks and assumptions that are difficult to predict. Further, certain forward-looking statements are based on assumptions as to future events that may not prove to be accurate, including that clinical trials may be delayed; that the data reported may be interim data, conclusions as to which may be superseded by subsequent data we receive in connection with other and/or subsequent clinical trials; and that any anticipated meeting with or presentation to the FDA may be delayed. These and other risks and uncertainties are described more fully in the section titled “Risk Factors” in TransCode Therapeutics, Inc.’s Annual Report on Form 10-K and other reports filed with the U.S. Securities and Exchange Commission. Forward-looking statements contained in this presentation are made as of this date, and TransCode Therapeutics, Inc. undertakes no duty to update such information except as required under applicable law.

Metastatic Cancer Reduces 5-year Survival Critical Need for Therapy Targeting Metastasis*

90%

of Cancer
Deaths Due to
Metastasis

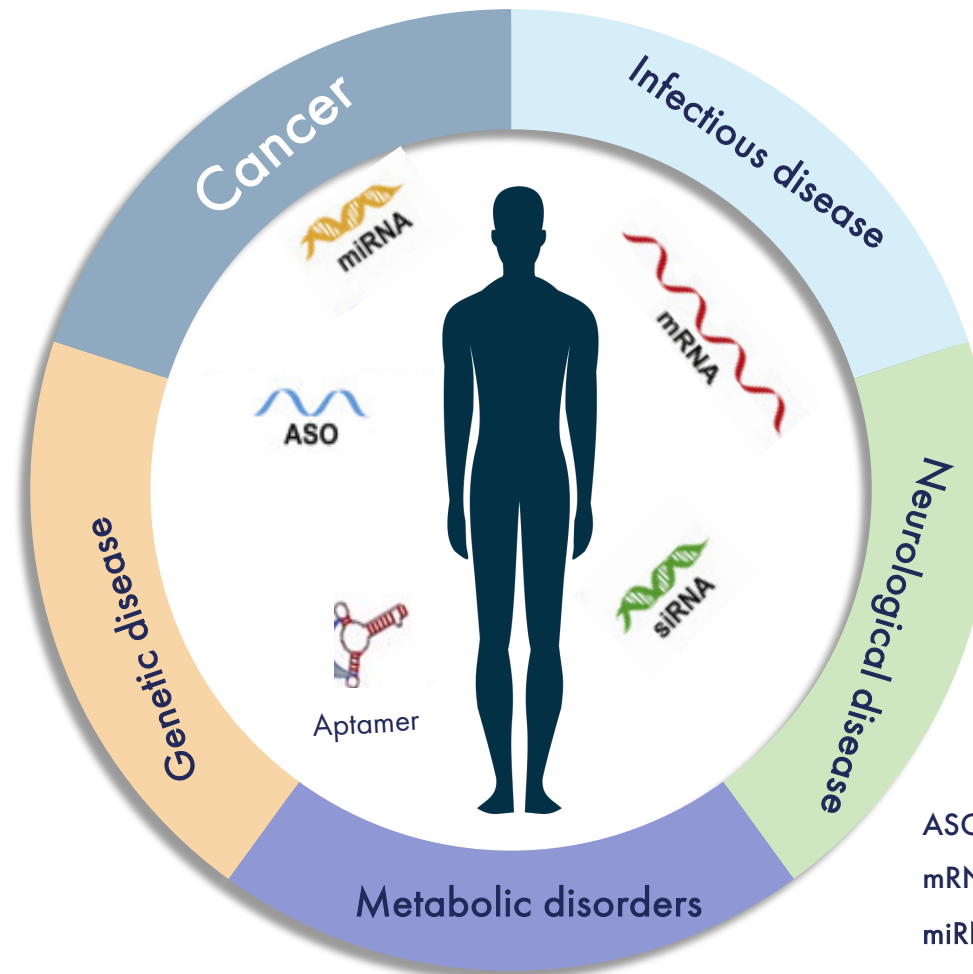
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Global Metastatic
Cancer Treatment
Market by 2027

RNA-based therapy holds the potential to target a vast number of genes and cellular pathways with high specificity*

Advantages of RNA treatments include:

- Access to previously “undruggable” targets
- Rapid and cost-effective development
- Relatively easy to modify to address newly identified targets



ASO: antisense oligonucleotides

mRNA: messenger RNA

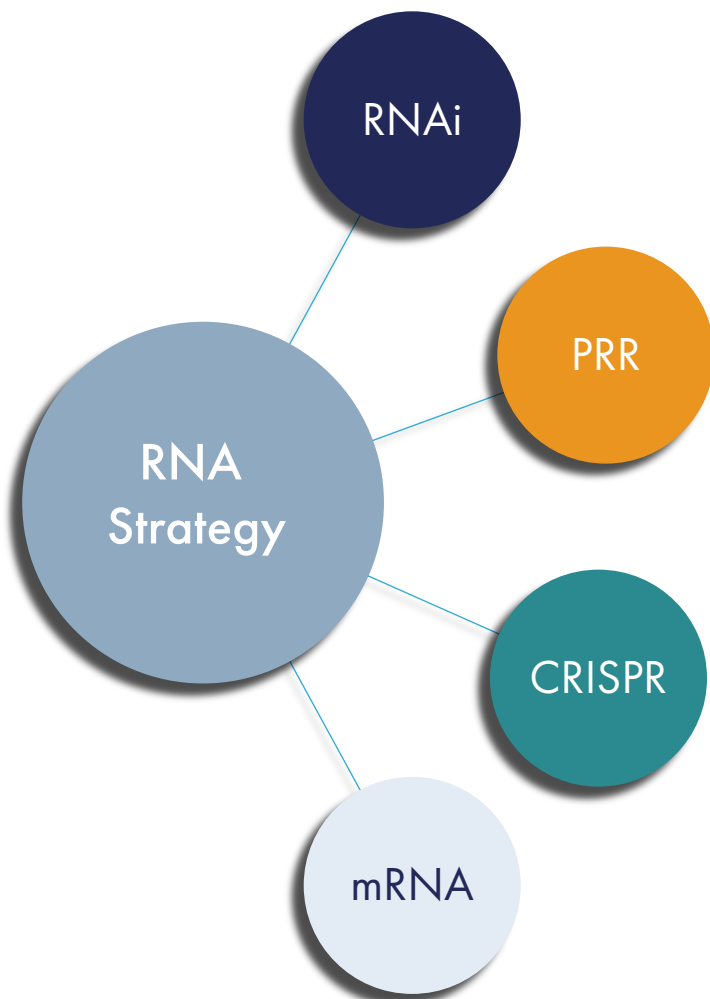
miRNA: microRNA

siRNA: short interfering RNA

“A major obstacle preventing widespread usage of oligonucleotide therapeutics has been the difficulty in achieving efficient delivery to target organs & tissues other than the liver.”

Robert S. Langer, ScD Institute Professor
David H. Koch Institute for Integrative Cancer Research
Massachusetts Institute of Technology

TransCode Therapeutics - The RNA Oncology Company



Defeating cancer requires many approaches

- Developing multiple RNA approaches in oncology
- Lead therapeutic candidate targeting principal driver of metastasis

Resolving delivery challenge of RNA therapeutics

- Optimized delivery of RNA therapeutics to genetic targets in cancer
- Modular toolbox enabling rational drug design

R&D: Broad and diverse oncology pipeline

- Early programs targeting biomarkers in numerous solid tumor types
- Access to genetic targets previously undruggable without RNA delivery

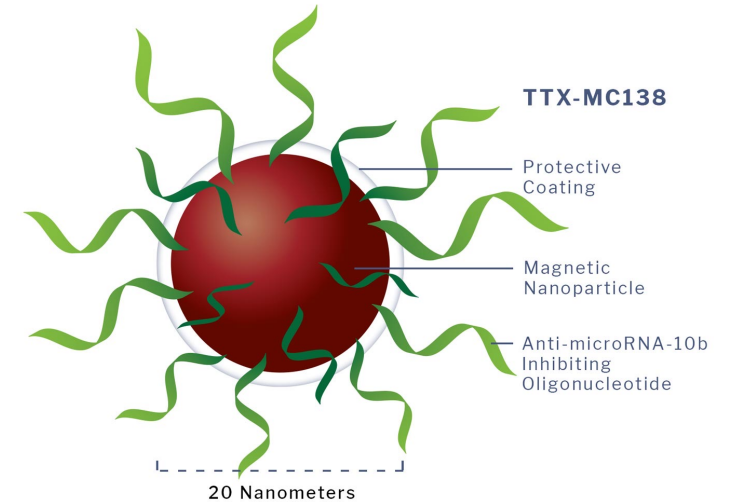


TransCode Therapeutics Approach

Develop RNA Therapeutics
for Efficient Delivery to
Genetic Targets in Cancer

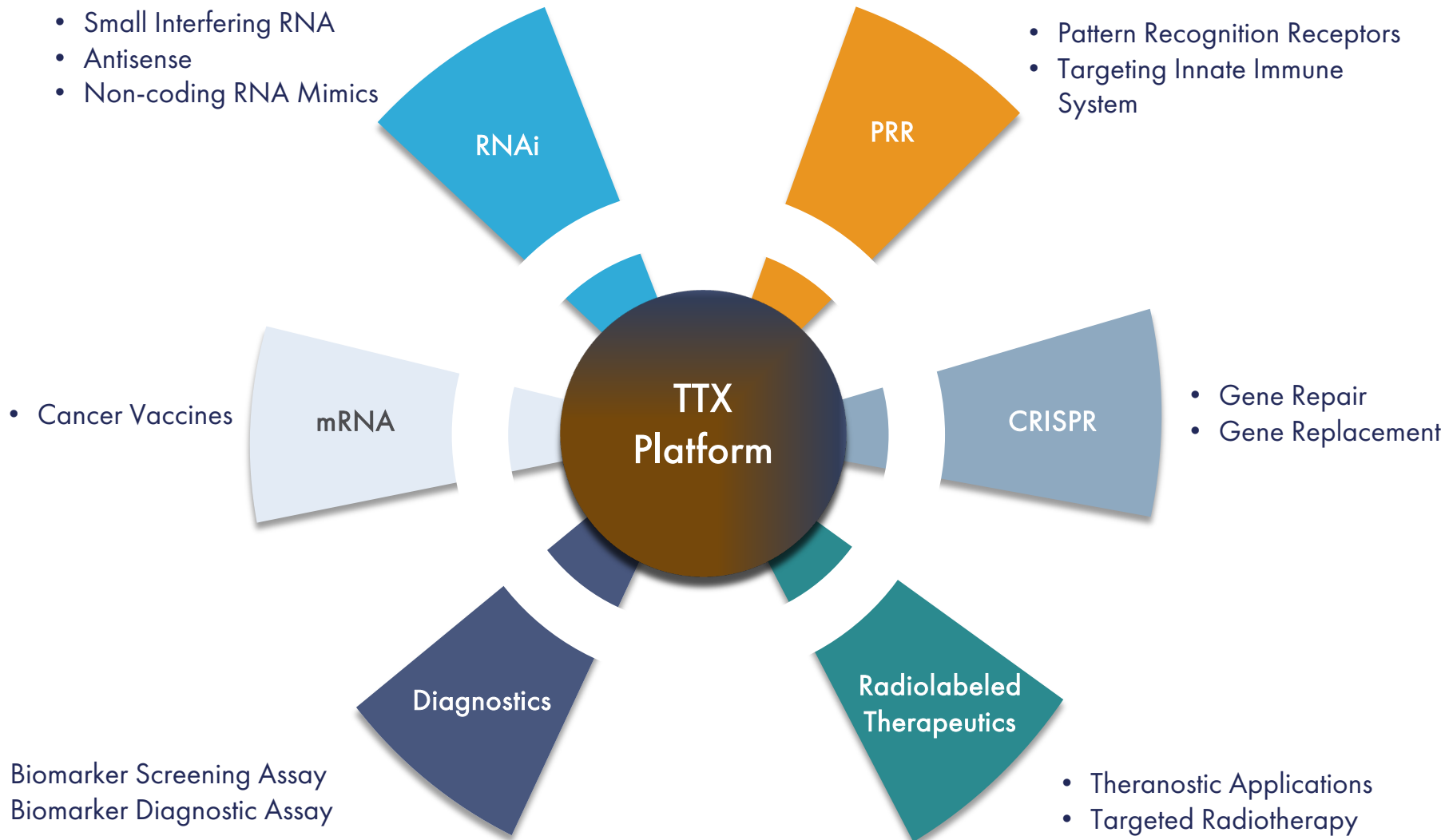
Our therapeutic strategy employs a nanoparticle extensively used in imaging that has been repurposed to:

- Deliver oligonucleotides to tumors and metastases
- Achieve robust target engagement inside tumor cells



We believe that demonstrating our ability to overcome the challenge of RNA therapeutic delivery to genetic targets would represent a major step forward in unlocking therapeutic access to a variety of genetic targets involved in a range of cancers and beyond

One Platform– Multiple RNA Approaches*



*In Oncology and beyond

Our delivery system is specifically designed to access targets inside tumor cells:

Iron Oxide Nanoparticle Platform:

- Long circulation half-life
- Unique capability to accumulate in tumor cells and metastatic sites
- Image capable via MRI
- Highly stable, low toxicity potential; low immunogenicity

Glucose Polymer (Dextran) coating:

- Stabilizes nanoparticles
- Protects oligos from degradation
- Promotes uptake and entrapment inside tumor cells

Amino functional groups:

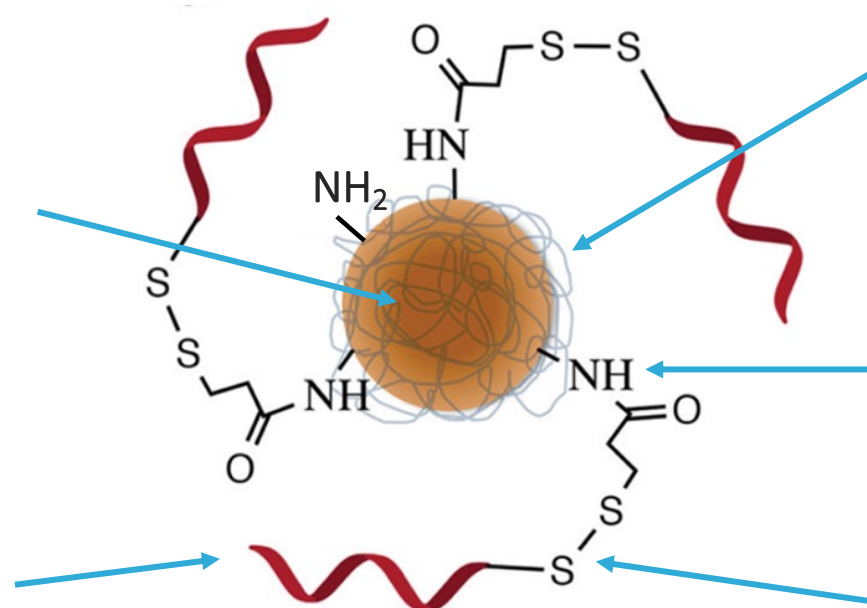
- Provide stabilization

Disulfide bond:

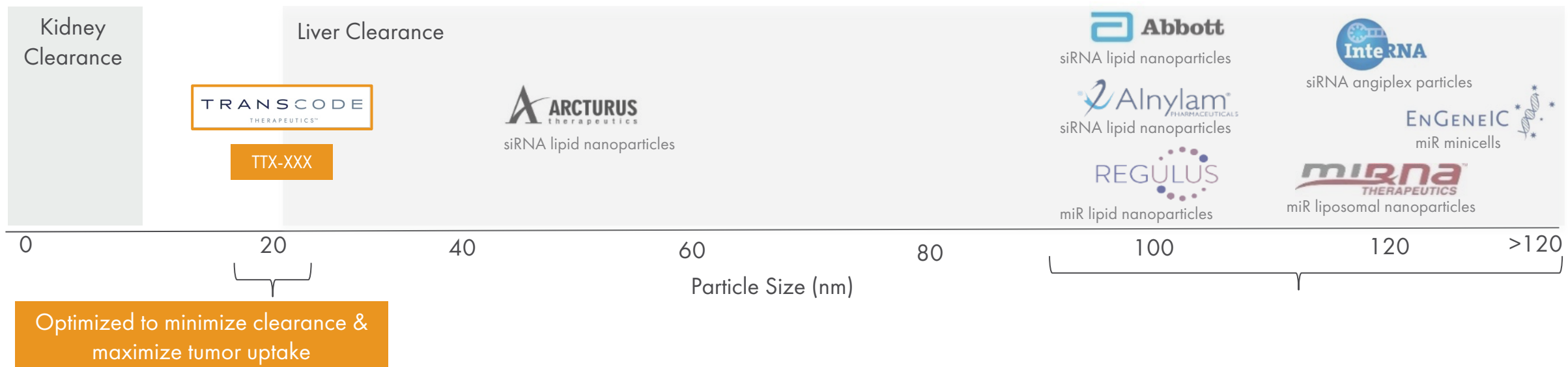
- Allows oligo to disconnect from nanoparticle in order to bind to RNA/DNA target

RNA-targeted nucleic acid:

- Strong binding affinity, specificity & stability while minimizing immunogenicity



TTX Platform | **TTX Platform is Highly Differentiated**



Source: J Nano Res 2014, J Drug Targeting 2012, Alnylam presentation, Molecular Therapy-Nucleic Acids 2016, Nature Communications 2018, Molecular Therapy 2018, Int J Pharmaceut 2014, Analytical Chem 2013, Large Molecular Therapeutics 2017, Current Pharma Design 2015, Radiology 2018



TTX-MC138

**Lead Therapeutic Candidate:
Targeted Therapy for
Metastatic Disease**

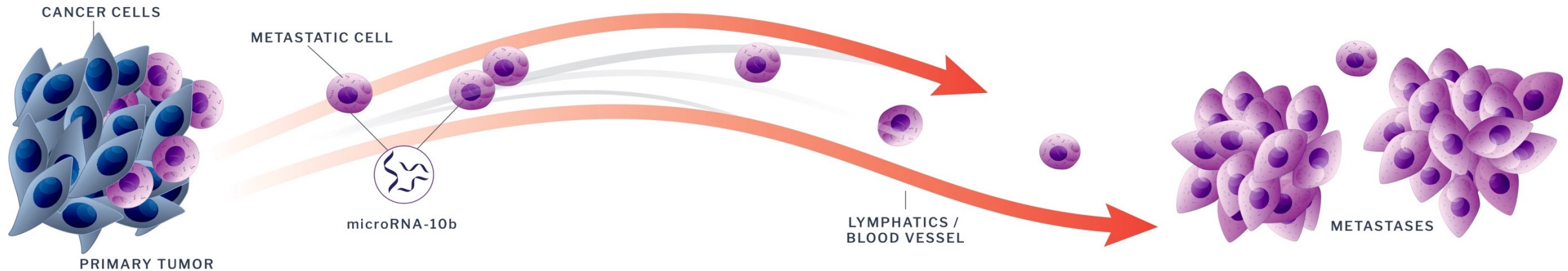
microRNA-10b (miR-10b) is a Unique, Well Documented Biomarker of Metastasis

Clinical Evidence Demonstrated in >200 peer-reviewed publications over the last ten years

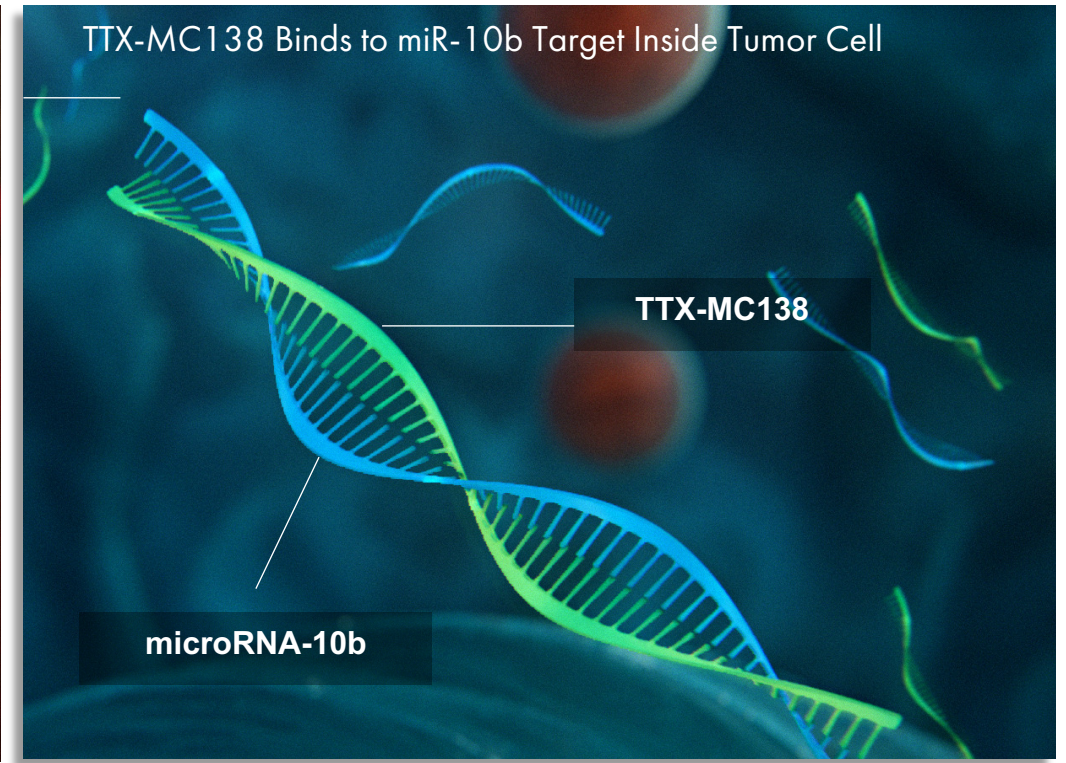
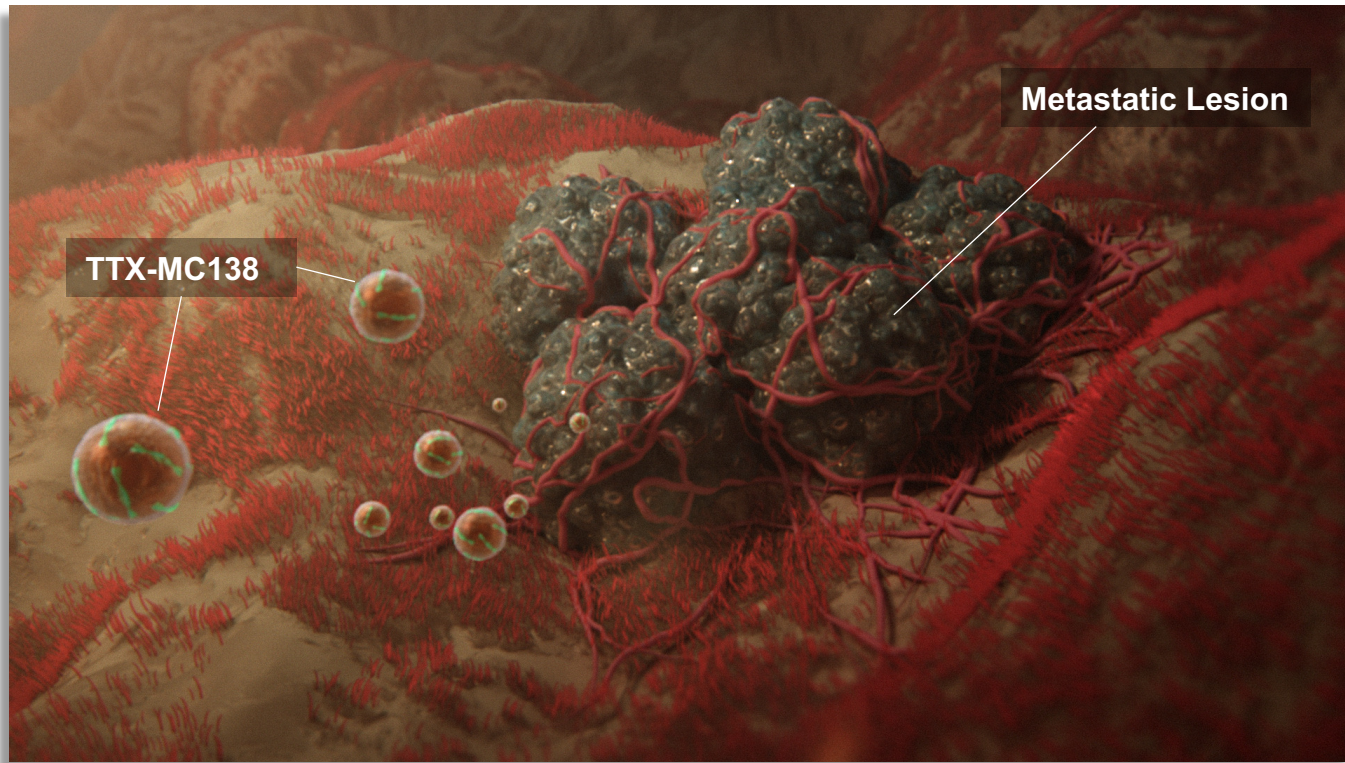
Biomarker of Metastasis

Linked to Higher Cancer Risk
Poor Survival Outcomes

Linked to Metastatic Progression
in Multiple Cancer Types



TTX-MC138 - Designed to Inhibit miR-10b and Eliminate Metastasis

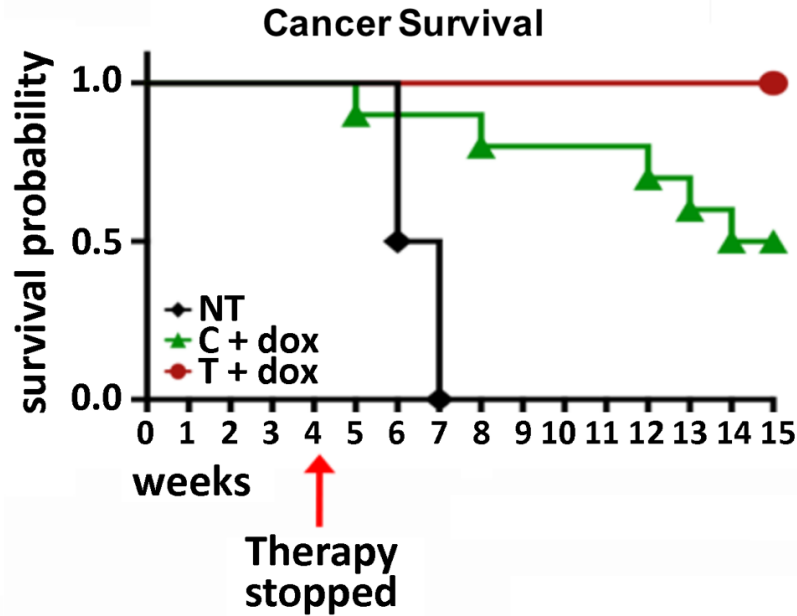


Survival Benefit Observed Preclinically in Multiple TNBC* Models

Following cessation of therapy, no recurrence or toxicity observed

Stage II/III Metastatic Burden

Treatment stopped after 4 weekly treatments once there was evidence (via imaging) that metastases were eliminated



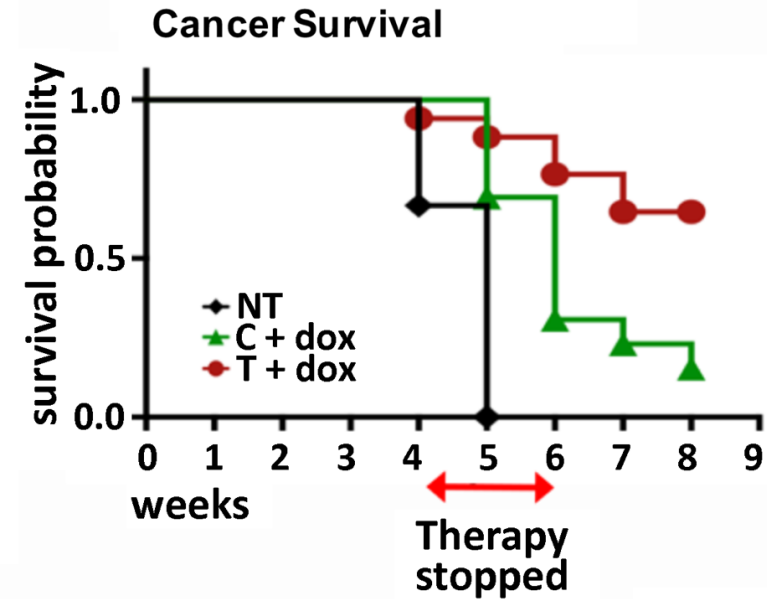
NT: No therapy, C: Control (Irrelevant oligo), T: TTX-MC138, dox: doxorubicin

Study design: mice (n=35) implanted with MDA-MBA-231-luc-D3H2LN

Results: TTX-MC138 eliminated pre-existing local metastases in 100% of animals treated

Stage IV Metastatic Burden

Treatment stopped after 4-6 weekly treatments once there was evidence (via imaging) that metastases were eliminated



NT: No therapy, C: Control (Irrelevant oligo), T: TTX-MC138, dox: doxorubicin

Study design: mice (n=39) implanted with 4T1-luc2 cells

Results: TTX-MC138 eliminated distant metastases in 65% of animals treated



Path Forward

**First In Human (FIH)
Phase 0 Study**

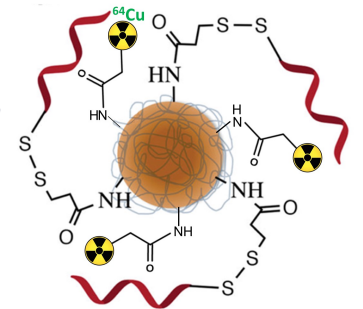
Rethinking FIH trials :

*'Methods used to develop patient therapies should be redesigned and clinical trials modified to rapidly identify biomarkers of response and toxicity, including use of co-clinical trials and phase 0 trials'**

David A. Tuveson, MD, PhD, FAACR (past president of AACR)

TTX's FIH Phase 0 study has the potential to:

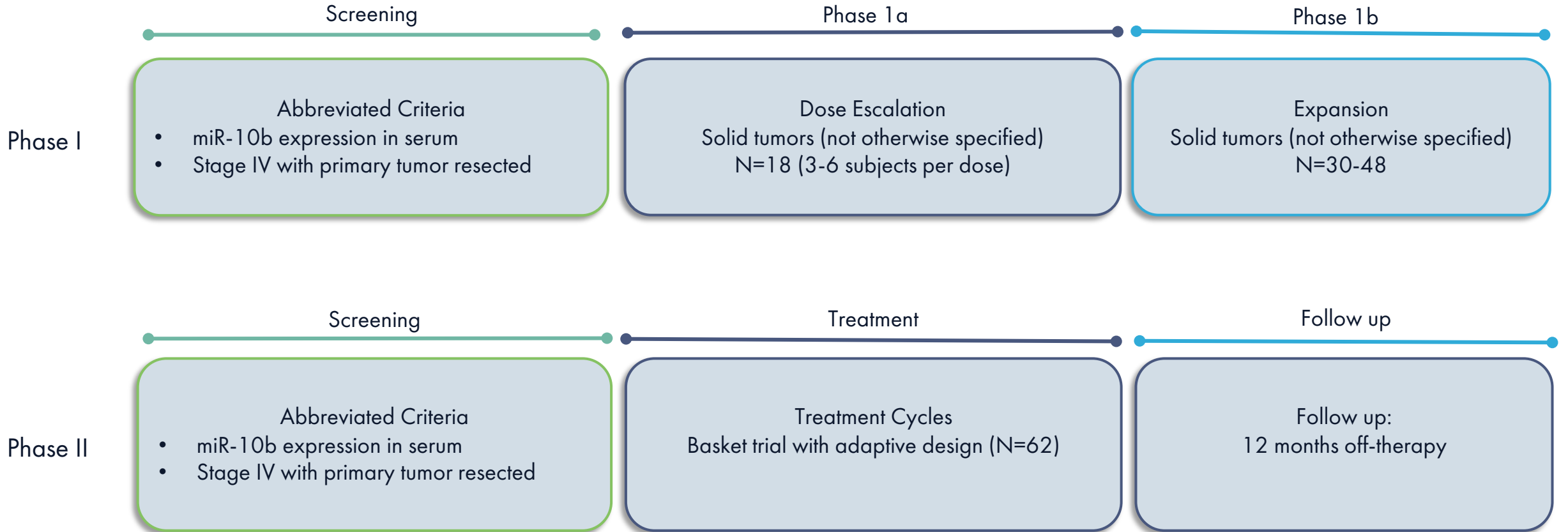
- Demonstrate quantifiable evidence of delivery of TTX-MC138 to metastatic lesions in cancer patients with advanced solid tumors
- Inform Ph I/II clinical trials by measuring pharmacokinetics & biodistribution in vital organs & other tissues
- Extrapolate therapeutic dose level from microdose results for Phase I/II dose
- Validate delivery for the TTX pipeline and open-up additional previously undruggable RNA targets



Written guidance by FDA informing proposed FIH (Phase 0) trial

*<https://leadingdiscoveries.aacr.org/dr-david-a-tuveson-decoding-a-complex-disease/>

TTX-MC138 Expected Clinical Path for PhI/II





TTX Pipeline

Pipeline Includes
Multiple Candidates for
Partnership Discussions in
Oncology and Beyond

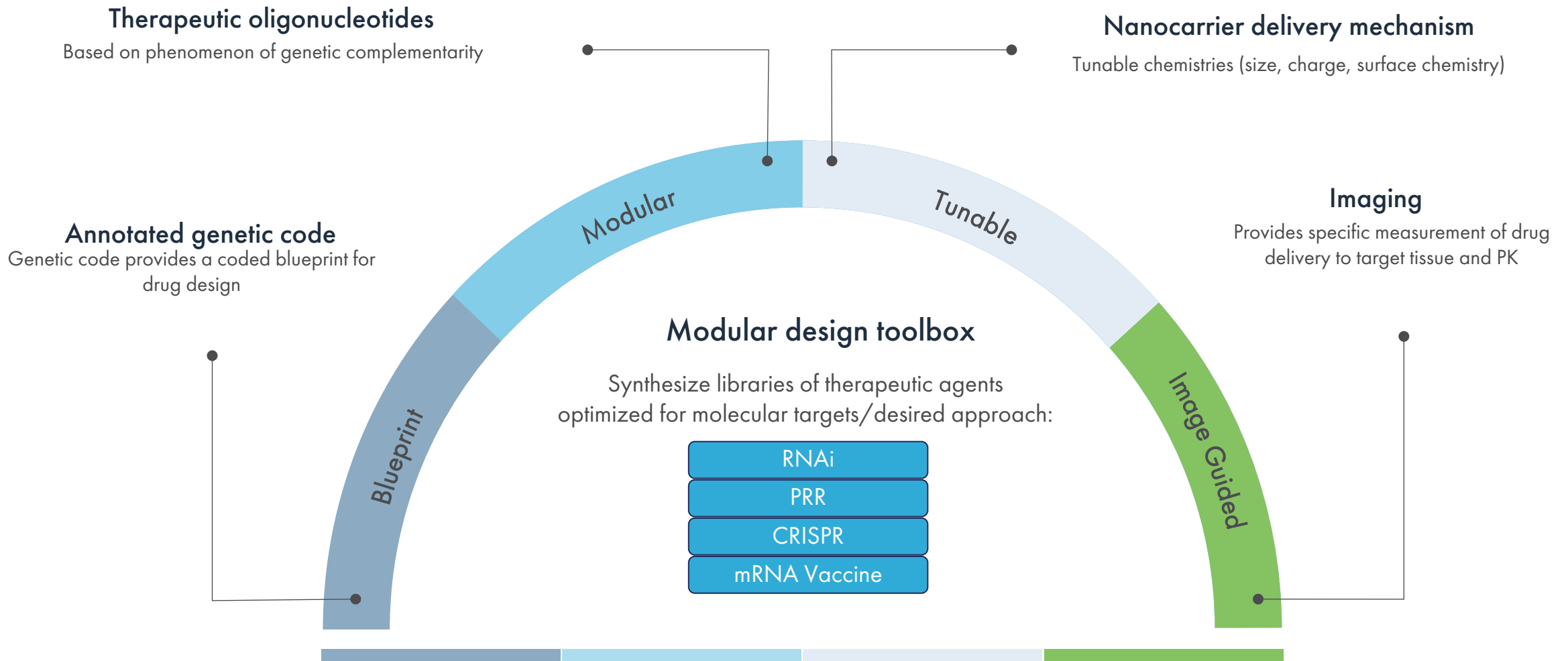
Pipeline of First-in-Class RNA Therapeutic Candidates

Drug Candidate	Target	RNA Type	Disease Indication	Discovery	Preclinical	Phase 0	Phase 1	Phase 2	Phase 3
TTX-MC138 (Metastasis focus)	miR-10b	RNAi	Metastatic Breast Cancer						
			**Glioblastoma (GBM); Pancreatic Cancer						
			**SCLC, & Osteosarcoma						
TTX-siPDL1	PD-L1	RNAi	PDAC						
TTX-MC138Cu ⁶⁴ *	miR-10b	RNAi	Metastatic Breast Cancer						
TTX-siLin28b*	Lin28b	RNAi	PDAC						
TTX-RIGA	Multiple	RIGI	Cancer Agnostic						
TTX-CRISPR	Multiple	CRISPR	Cancer Agnostic						
TTX-mRNA	Cancer Vaccine	mRNA	Cancer Agnostic						

* TransCode signed Exclusive Option Agreements with The General Hospital Corporation, d/b/a Massachusetts General Hospital, or MGH, for TTX-siLin28b and ⁶⁴Cu-TTX-MC138. Under these Options, TransCode has the right to negotiate a license for these candidates with MGH. TransCode's decision will depend on the results of preclinical studies it plans to conduct as shown above. PDAC: Pancreatic ductal adenocarcinoma

** Seeking Orphan designation

Platform | Design Engine to Customize Development of RNA Therapeutics*



*In Oncology and Beyond

➤ Established Pre-Clinical Results

- TTX-MC138 MOA is the inhibition of miR-10b, master regulator of metastatic disease in variety of tumor types
 - Well tolerated in pre-clinical studies
 - Pre-clinical POC in aggressive stage II-IV metastatic breast cancer models, solid efficacy results
 - Anticipated participation in one or more of FDA's Expedited Programs
- Significant results also achieved with siPDL1 and RIGA therapeutic candidates

➤ Robust Design Engine

- Opportunity to customize RNA therapeutics for specific tumor indications

➤ First-in-Class lead therapeutic candidate and pipeline

Seeking partners to expand:

- Potential of TTX-MC138 lead therapeutic candidate in MBC
- Potential of TTX-MC138 in Colorectal, Pancreatic, Lung, Hepatocellular, Stomach, Ovarian, Glioblastoma, Osteosarcoma, Gastric, Melanoma, Esophageal, SCLC, Thyroid, Endometrial etc.
- Pipeline of therapeutic candidates beyond TTX-MC138
- RNA therapeutic potential outside of oncology

**Our goal is to provide
cancer patients with the gift
of time by reimagining RNA
to revolutionize the way
cancer is treated**