Transforming the Discovery of Novel GPCR-Targeted Therapies

JANUARY 2024





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Transforming the Discovery of Novel GPCR-Targeted Therapies



Merger of Tectonic Therapeutic and AVROBIO

OVERVIEW

- Tectonic Therapeutic, a privately-held biotechnology company focused on discovering and developing GPCR-targeted therapies, intends to merge with AVROBIO, Inc. (Nasdaq: AVRO)
- Supported by the Board of Directors of both companies and subject to stockholder approval and other customary closing conditions

TRANSACTION SUMMARY

- Planned \$130.7 million private financing from new and existing leading life sciences investors, together with existing cash from both companies at closing, expected to be approximately \$165 million and provide cash runway into mid-2027
- Expected pro forma ownership is approximately 40% pre-merger Tectonic shareholders,
 22% pre-merger AVROBIO shareholders, and 38% purchasers in the private financing
- Merger and financing expected to close in Q2 2024

MANAGEMENT

- Existing Tectonic management to lead the combined company
- Board of Directors of combined company will include one director from the AVROBIO BOD



Tectonic Therapeutic – Transforming the Discovery of Novel GPCR-Targeted Therapies, Innovating in Their Development

- Validated platform to discover and optimize biologics that target GPCRs
- Prioritizing high value GPCR targets, where small molecules are not the right modality
- First two assets address indications with no approved therapy
 - 1. RXFP1 agonist potential therapy for Group 2 PH1 in HFpEF2
 - >600,000 Patients in US alone (>20 times PAH)
 - Initial Phase 1A PK/PD data demonstrated activity and favorable PK with potential for monthly dosing; full data set from this study expected by mid 2024
 - Phase 1B hemodynamic proof of concept expected in 2025, randomized Phase 2 data expected in 2026
 - 2. GPCR antagonist antibody addressing hereditary hemorrhagic telangiectasia (HHT)
- Team with extensive track record of drug discovery and development success, resulting in 20 first approvals across multiple therapeutic areas
- Well capitalized by a syndicate of leading institutional funds
- Transaction expected to provide runway into mid-2027



2. Heart Failure with Preserved Ejection Fraction



Our Team Has Delivered for Patients and Investors



Alise Reicin, M.D. CEO, Director



Christian Cortis, Ph.D. COO



Peter McNamara, Ph.D. CSO



Anthony Muslin, M.D. CDO



Marcella Ruddy, M.D. CMO



Marc Schwabish, Ph.D. CBO



















UNIVERSITY























BAYER





















2022 Lasker Award



Andrew Kruse, Ph.D. Co-Founder

GPCR EXPERT, FORBES "30 under 30"



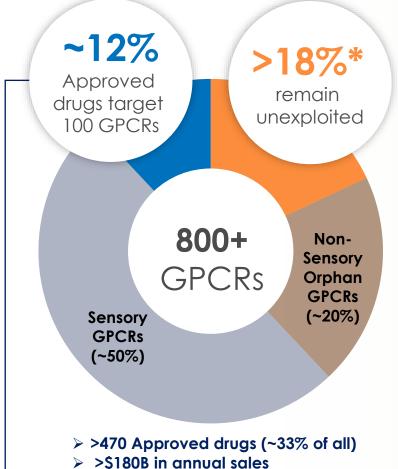


Multiple Awards and Fellowships (Biomedical Research, NIH, Amgen, Sloan Research)





Biologics Offer Advantages Over Small Molecules in Targeting **GPCRs in Multiple Settings**



- When difficult to drug with small molecules Biologic captures complexity of ligand / receptor engagement
- If target site similar to domains of different proteins Biologic minimizes off target binding to improve safety / tolerability
- If use case requires tissue /compartment targeting Engineer biologic to target or exclude compartment as needed
- When multi-modal action needed Bispecific approach enables dual target engagement

- > Predominantly small molecules
- > Address broad range of therapeutic areas
- > Only 3 are antibodies



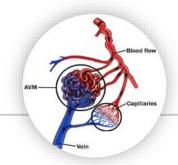
Our Unique Pipeline Opportunities are Enabled by Biologic Targeting of GPCRs



GROUP 2 PULMONARY
HYPERTENSION (Group 2 PH)

Potential Best-in-Class RXFP1 Agonist¹

Supporting clinical data

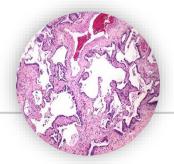


HEREDITARY HEMORRHAGIC TELANGIECTASIA (HHT)

First in Class & Indication

GPCR Antagonist² (anti-angiogenic)

Target pathway linked to disease genetics



FIBROSIS

Bi-specific Approach

GPCR Antagonist² (anti-fibrotic)

Supporting clinical data for one component of bispecific

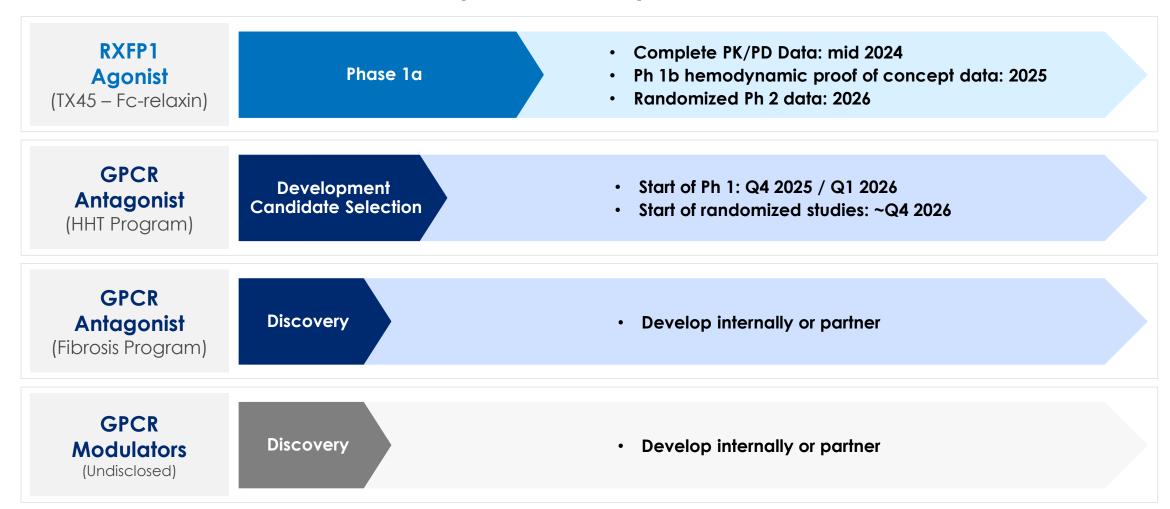
Scale of POC studies: ~50-200 patients per indication 3-6 months treatment

- 1. Fusion protein lead molecule in-licensed from Harvard U., optimized using GEODe platform
- 2. GPCR targeted mAbs discovered internally using GEODe platform



Post Close Cash to Support Pipeline Progression Into Mid-2027 and Several Key Inflection Points

Tectonic Pipeline and Expected Readouts





GEODe Designed to Solve Key Challenges in GPCR **Targeted Biologics Discovery**

Challenges

RETAIN

endogenous GPCR structure to enable screening against relevant form of receptor

PURIFY

target in sufficient quantities to power screening campaign

INDUCE

immune response to human GPCR in animals if immunization strategy is pursued

STABILIZE

receptor in active conformation to enable agonist discovery

GEODe™ Platform Features Designed for Success

Receptor Engineering, and Purification Technology delivers abundant receptor reagent in native conformation

In-vitro Yeast Display Libraries

provide high-diversity, without immune editing

Protein Engineering

Optimize protein pharmacology Engineer antigen formats to enable screening for agonists or antagonists as needed





TX45: Fc-RELAXIN FUSION PROTEIN

RXFP1 agonist with differentiated profile

Hemodynamic and Anti-fibrotic Properties of Relaxin Demonstrated by its Role in Pregnancy

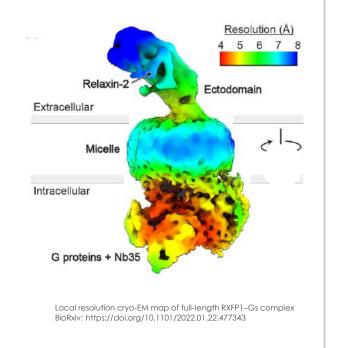
Pharmacology

AGONIST

Natural Ligand of RXPF1 Receptor

No RXFP1 internalization from relaxin agonism → no desensitization with chronic therapy

Relaxin upregulated in pregnancy



Facilitates Gestation

PULMONARY AND SYSTEMIC VASODILATOR

Increases cardiac output to accommodate the increased demand from developing fetus

ANTIFIBROTIC

Prepares musculoskeletal tissues for pregnancy and childbirth



Pharmacologic properties of relaxin hold promise as a potential treatment for cardiopulmonary and renal disease, but its short half-life has impeded its development



Evidence of Serelaxin's Safety and Benefit in Acute **Heart Failure (AHF)**

- A meta-analysis of 6 studies and >11,000 patients demonstrated that a 2-day infusion of serelaxin was safe and resulted in a 23% decrease in 5-day worsening heart failure
- One of two pivotal studies include in meta-analysis, RELAX-AHF-2, failed to achieve the coprimary endpoints, and we believe that two factors contributed to this outcome
 - It was ambitious to expect that a two-day infusion of serelaxin, with its short half-life and mechanism of action, would demonstrate clinical benefit at day 5 and, more puzzlingly at 6 months
 - Operational challenges with patient enrollment may also have had an impact
- Limitations of serelaxin's PK inhibited further development, but its clinical performance supports advancement of TX45 whose PK profile permits chronic dosing for chronic diseases such as pulmonary hypertension and heart failure



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TX45 is Engineered to Solve a Critical PK Problem Observed with Other Relaxin Molecules

Relaxin has **very short** *in vivo* **half-life**Fc-fusion needed to improve PK

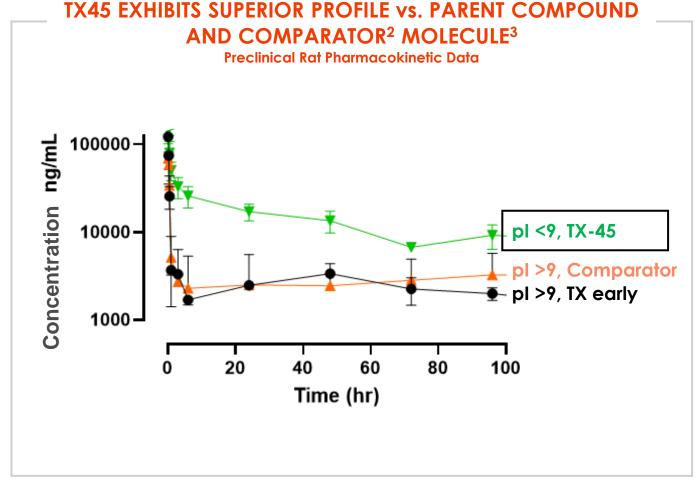


Relaxin Fc-fusions have steep decline in exposure after dosing (>90%) because of glycocalyx binding due to high pl¹



Engineering TX45 to reduce net positive charge (and lower pl) prevents rapid clearance



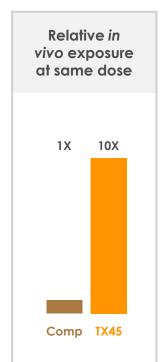


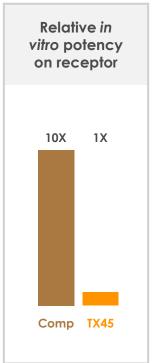
- 1. Isoelectric Point
- 2. High pl Fc-relaxin fusion protein described in literature
- 3. Source: Tectonic internal data

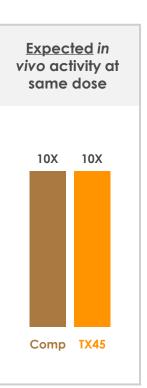


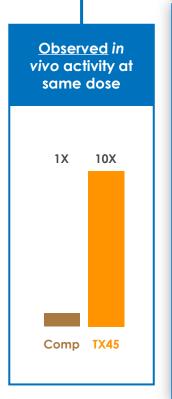
TX45 Reflects Significant Protein Engineering to Optimize Its Pharmacology

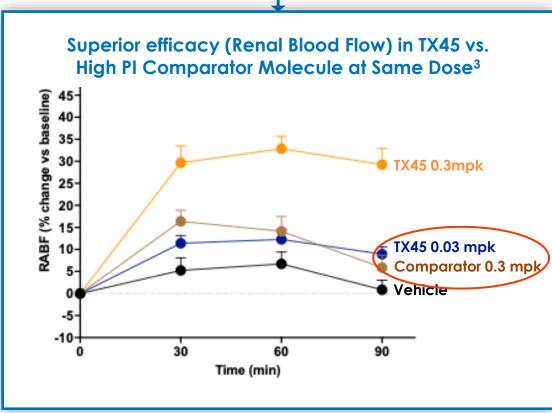
TX45 results in ~10x greater *in vivo* potency over comparator¹ molecule than predicted based on PK and *in vitro* activity² – potentially from reduced trapping of drug in glycocalyx, resulting in increased free drug available to activate RXFP1 in tissues



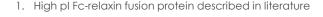








^{2. ~0.03} mpk of TX45 has similar efficacy as 0.3 mpk of Comparator





^{3.} Source: Tectonic internal data

TX45 – Optimized RXFP1Agonist for Group 2 PH in HFpEF

- ✓ Potential Best-in-Class Relaxin Agonist with Optimized PK
- Protein engineering has extended pharmacologic half-life to support monthly dosing
- ✓ High Unmet Need in Group 2 PH with HFpEF¹
- No approved therapy
- >600,000 patients in US
- High 5-year high mortality
- ✓ Mechanism may be Ideal to Address Group 2 PH
- Pulmonary + systemic vasodilation, cardiac relaxation
- Reversal of fibrosis in pulmonary vasculature and heart
- Anti-inflammatory
- ✓ Supporting Clinical and Preclinical Data
- Hemodynamic benefit in studies of serelaxin in AHF
- Clear benefit observed with TX45 in rodent PH and CHF models

✓ Streamlined Development Strategy

- No outcome study needed
- Enrichment strategy for CpcPH where there is greatest unmet need
- Enables potential early launch relative to congestive heart failure
- ✓ Potential to Expand Indications
- Other PH Groups, Heart failure, renal disease



Pulmonary Hypertension Consists of 5 Distinct Diseases

Group 2 PH is of Greatest Interest for TX45's Initial Indication

Group 1 ("PAH") (~25,000¹)

- Idiopathic
- Hereditary
- Connective tissue disease-associated
- Congenital heart disease-associated
- Drug-induced



Group 2 (>600,000¹)

- Due to left heart disease (HFpEF, HFrEF) or valvular heart disease
- CAD, HTN, T2DM², high cholesterol are risk factors
- Two Subtypes: CpcPH / IpcPH

Group 3

- Due to lung disease or hypoxia
- May be due to COPD, interstitial lung disease (i.e., IPF) or obstructive sleep apnea

Group 4 ("CTEPH")

 Chronic thromboembolic pulmonary hypertension –i.e., as a consequence of blood clots

Group 5 (Misc.)

 Miscellaneous group with causes unclear or multiple underlying factors

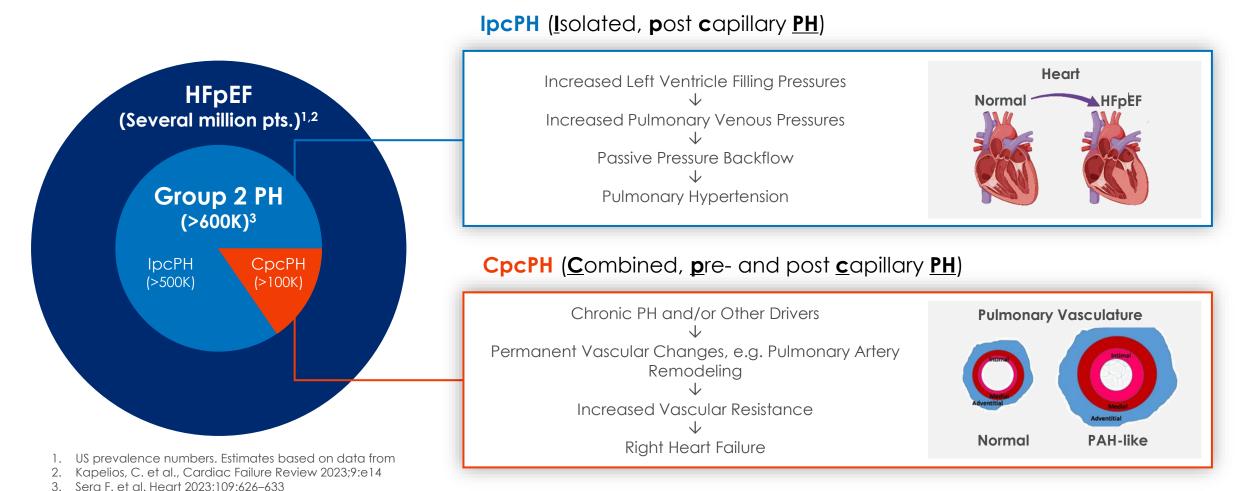


^{1.} US Prevalence

^{2.} CAD: Coronary Artery Disease, HTN: Hypertension, T2DM: Type 2 Diabetes Mellitus Nat. Pul. Hypertension Unit, Ireland

Our Focus is on the Group 2 PH Subset of Heart Failure with Preserved EF (HFpEF)

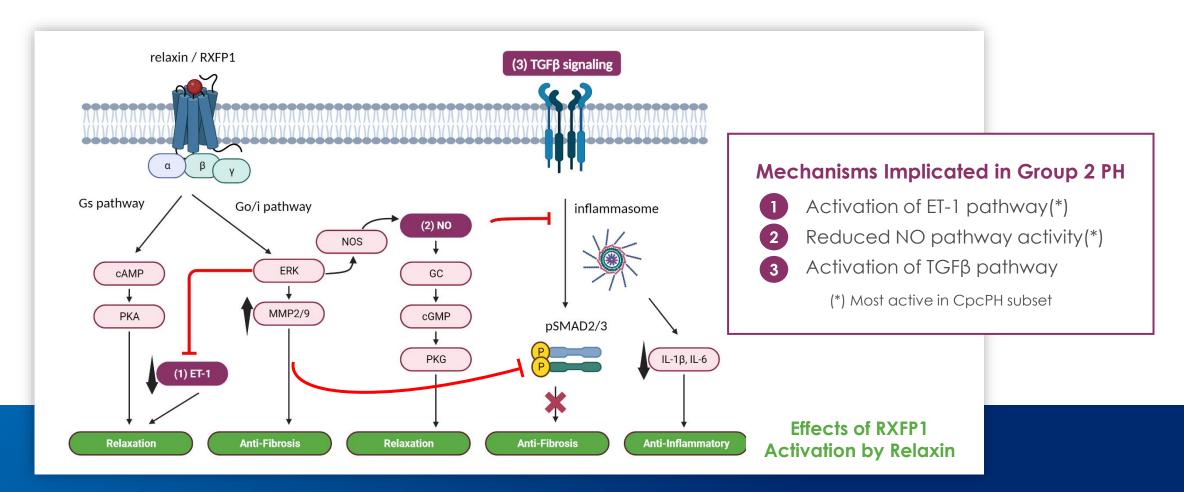
Clinical Program Designed to Enable Evaluation of Efficacy in Each Subgroup





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Relaxin Multimodal MOA Addresses Pathways Implicated in Group 2 PH Pathophysiology



- ✓ Pulmonary and systemic arterial vasodilation
- ✓ Favorable remodeling: anti-fibrotic effect in heart and pulmonary vasculature
- ✓ Anti-inflammatory



Relaxation and Anti-Fibrotic Effects of Relaxin Have Potential for Disease Modification in Group 2 PH

- Heart, and vascular dysfunction contribute to disease pathology
- Renal dysfunction also present in many of these patients

CHARACTERISTICS OF GROUP 2 PH	ІрсРН	СрсРН	ANTICIPATED RELAXIN EFFECTS
Pulmonary artery narrowing, thickening, stiffening, fibrotic remodeling		√	Pulmonary Vasodilation Anti-inflammatory, anti-fibrotic
Right Ventricular Dysfunction	√	✓	Right ventricular remodeling
Thickening and stiffening of Left Ventricle	✓	✓	Peripheral vasodilation, cardiac relaxation, left ventricular remodeling
Compromised kidney function	✓	✓	Improvement in kidney function

Balanced vasodilation in pulmonary and peripheral vasculature needed for safety and efficacy



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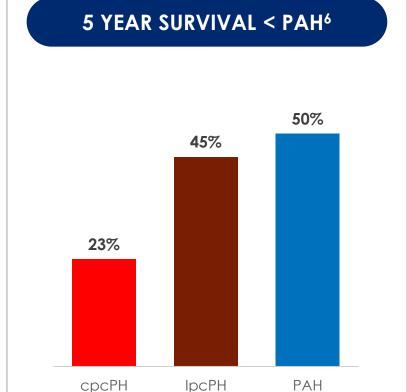
Group 2 PH vs. PAH

- Significant opportunity for a first-in-indication therapy
- Highly motivated physicians and patients

US Today⁵

US PREVALENCE >> PAH >600,0001-3 **IpcPH** (>500K)**CpcPH** <25,0004 (>100K) Group 2 PH PAH **Multi-\$ Billion Market** >\$4 Billion Market in

Opportunity



US prevalence numbers. Estimates based on data from

- 2. Kapelios, C. et al., Cardiac Failure Review 2023;9:e14
- 3. Sera F. et al. Heart 2023;109:626–633

Group 2 PH

- 4. www.pahinitiative.com
- 5. GlobalData
- 6. https://doi.org/10.1371/journal.pone.0199164.g003

NO THERAPEUTIC OPTIONS

No approved therapies

•

Limited pipeline

PAH Drugs have failed in Group 2 PH with the exception of PDE5i in CpcPH Multiple drugs/ mechanisms approved

ET1R antagonists PDE5 inhibitors GC stimulators

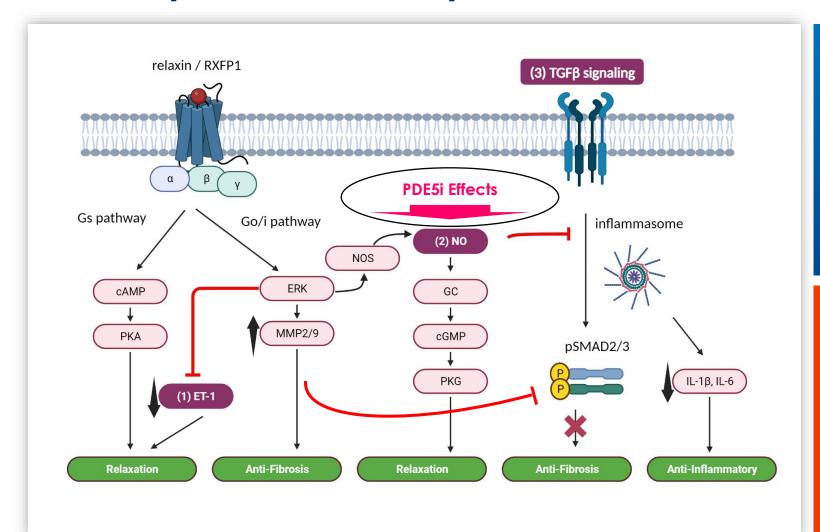
ACTRII-Trap

Group 2 PH

PAH



PDE5 Inhibitors Affect Only One of Several Pathways Addressed by Relaxin



PDE5 inhibitors demonstrated efficacy across 3 studies (1-3) including:

- ✓ Reduction in PVR
- ✓ Improvement in exercise capacity
- ✓ Decrease in heart failure hospitalizations

TX45 anticipated to be effective in both Cpc-PH and Ipc-PH because it targets additional anti-fibrotic and anti-inflammatory mechanisms on top of activation of the NO pathway



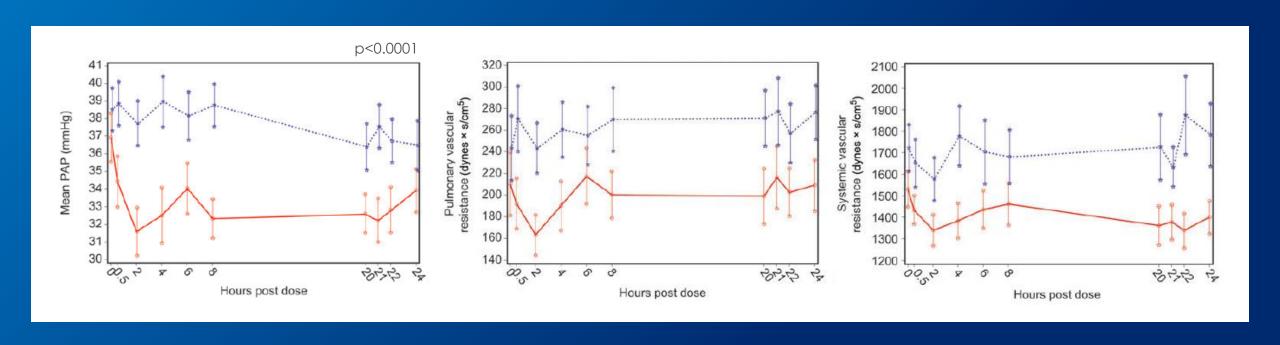
Guazzi et al. 2011

^{2.} Belyavskiy et al. 2020

Kramer et al. 2019

Relaxin Improves Hemodynamics in Heart Failure

Balanced pulmonary and peripheral vasodilation, and increased cardiac output relevant to Group 2 PH



- Above: serelaxin infusion for 20hrs in Acute Heart Failure patients with elevated pulmonary artery pressure (PAP) rapidly lowered mPAP, pulmonary vascular resistance (PVR), systemic vascular resistance (SVR) and improved renal function*
- Not shown: serelaxin also improved additional hemodynamic parameters including pulmonary capillary wedge pressure
 (PCWP), right atrial pressures (RAP) and cardiac index (CI)
- In a similar study in patients with chronic CHF, a reduction in PCWP and an increase in cardiac output was demonstrated**



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TX45 Development Program Overview

Planned readouts in mid-2024, 2H 2025, 2026

2024 2025 2026

Phase 1A Safety, tolerability, PK/PD

Healthy
Volunteers
(ongoing)

Mid-2024

- Safety
- PK
- PD (Renal Blood Flow)

Phase 1B
RHC study to establish hemodynamic proof of concept

Group 2 PH with HFpEF

2025

- mPAP
- PVR
- CO

Phase 2
Randomized, 6-month study

Group 2 PH with HFpEF (enriched for CpcPH)

2026

- Primary: PVR
- Secondary: mPAP, 6MWT

RHC: Right Heart Catheter

mPAP: Mean Pulmonary Arterial Pressure PVR: Pulmonary Vascular Resistance

CO: Cardiac Output 6MTW: 6-Minute Walk Test





Preliminary PK/PD Analysis After TX45 Administration in Healthy Volunteers

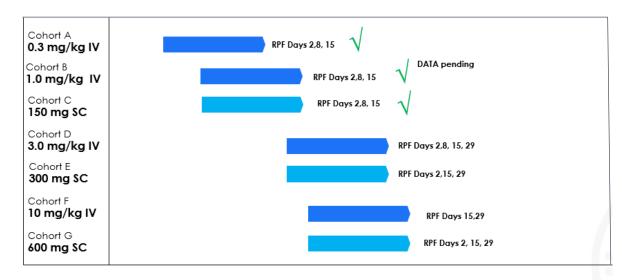
January 2024

Summary of preliminary data from TX45 SAD study¹

Cohort A (0.3 mg/kg IV) and Cohort C (150 mg SC)

- Well tolerated with minimal adverse events, no drug-related SAEs
- Pharmacokinetics
 - Low intersubject variability in serum concentrations (≤ 20%)
 - No evidence of immune mediated clearance
- Pharmacodynamics from 0.3 mg/kg cohort (lowest dose)
 - ~38% increase in renal plasma flow on Day 2
 post dose persisting at least until Day 8 post dose
 - Consistent with serelaxin's effect
 - Meets "go criteria"

TX45 SAD Dose Escalation Plan



RPF= Renal Plasma Flow *Cohorts F and G are optional

Based on preliminary data, we anticipate Q4W dosing at optimal SC dose

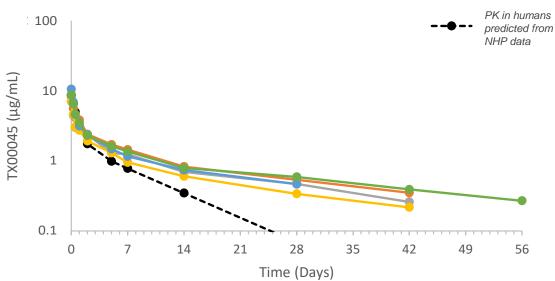


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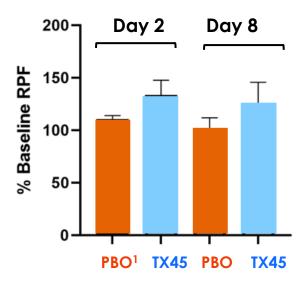
Phase 1A Study Preliminary Single Dose TX45 PK/PD Data (0.3 mg/kg)

TX45 Serum Concentrations from Phase 1A Subjects

Cohort A 0.3 mg/kg IV

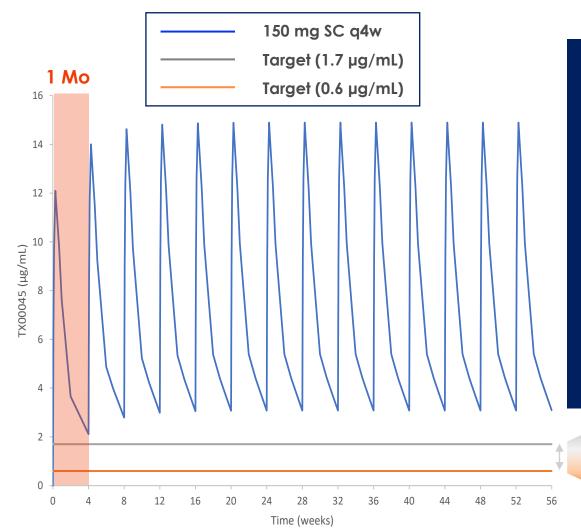


Renal Plasma Flow in Phase 1A Subjects TX45 Dosed on Day 1 - Cohort A 0.3 mg/kg IV





PK Modeling based on Preliminary Data Suggests TX45 Can be Given Monthly



- A model was constructed using observed data from both 0.3 mg/kg IV and 150 mg SC cohorts to predict trough concentrations of 150 mg SC Q4W
- Terminal $t_{1/2}$ is based on 0.3 mg/kg IV cohort as data beyond 14 days from 150 mg SC cohort was not available for accurate half life determination

Model assumptions

- Steady state terminal t_{1/2}, similar for IV and SC
- **Terminal t_{1/2} of 16.7 days**, observed in 0.3mg/kg IV cohort is maintained in additional cohorts

Target Exposure Range Predicted to Provide Maximal Efficacy based on Preclinical Models



Significant Pharma Interest in Relaxin Tectonic has Potential Best-in-Class Molecule

Company	Format	Formulation	Expected Dosing Frequency
TECTONIC Therapeutic	FC-Fusion Engineered for optimal PK, biodistribution, high [C] formulation	SubQ High [C] achievable	Q4 Weeks
AstraZeneca 🕏	Fc-Fusion	SubQ	Q2 Weeks
Lilly	h-Albumin-mAb-Fusion	SubQ Injection site reactions	Q Weekly





Summary



Uniquely Positioned to Deliver on Value Creating Milestones

Pipeline of Uniquely Differentiated Assets

Multiple Inflection Points 2024, 2025, 2026

Address important clinical problems, underserved patient populations

Accomplished Team World-leader Founders

20 1st Approvals

>\$50 Billion in Annual Sales

Leadership with
Proven Track Record

Strong Balance Sheet
Anticipated Post
Transaction

~\$165 Million

>3 Year Runway

Well positioned to execute



Transforming the Discovery of Novel GPCR-Targeted Therapies

