

Applied Therapeutics

Corporate Presentation

February 2022



Disclaimer

This presentation is made by Applied Therapeutics, Inc. (the “Company”). Nothing contained in this presentation is, or should be construed as, a recommendation, promise or representation by the presenter or the Company or any director, employee, agent, or adviser of the Company. This presentation does not purport to be all-inclusive or to contain all of the information you may desire. This presentation shall not constitute an offer to sell or the solicitation of an offer to buy the Company's securities, nor shall there be any sale of the Company's securities in any state or jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such state or jurisdiction.

Various statements in this presentation concerning the Company's future expectations, plans and prospects, including without limitation, the Company's current expectations regarding its strategy, its product candidate selection and development timing, its management team capabilities, and the ability of the Company's product candidates to have a clinically meaningful effect on the target patient populations, constitute forward-looking statements. The use of words such as “may,” “might,” “will,” “should,” “expect,” “plan,” “anticipate,” “believe,” “estimate,” “project,” “intend,” “future,” “potential,” or “continue,” the negative of these and other similar expressions are intended to identify such forward looking statements. Such statements, based as they are on the current analysis and expectations of management, inherently involve numerous risks and uncertainties, known and unknown, many of which are beyond the Company's control. Such risks include, but are not limited to: the impact of general economic conditions, general conditions in the biopharmaceutical industries, changes in the global and regional regulatory environments in the jurisdictions in which the Company does or plans to do business, market volatility, fluctuations in costs and changes to the competitive environment. Consequently, actual future results may differ materially from the anticipated results expressed in the forward-looking statements. In the case of forward-looking statements regarding investigational product candidates and continuing further development efforts, specific risks which could cause actual results to differ materially from the Company's current analysis and expectations include: failure to demonstrate the safety, tolerability and efficacy of our product candidates; final and quality controlled verification of data and the related analyses; the expense and uncertainty of obtaining regulatory approval, including from the U.S. Food and Drug Administration and European Medicines Agency; the possibility of having to conduct additional clinical trials and our reliance on third parties such as our licensors and collaboration partners regarding our suite of technologies and product candidates. Further, even if regulatory approval is obtained, biopharmaceutical products are generally subject to stringent on-going governmental regulation, challenges in gaining market acceptance and competition.

These risks and uncertainties are described more fully under the caption “Risk Factors” in the Company's filings with the Securities and Exchange Commission. Other risks and uncertainties of which the Company is not currently aware may also affect Company's forward-looking statements. The reader should not place undue reliance on any forward-looking statements included in this presentation. These statements speak only as of the date made and the Company is under no obligation and disavows any obligation to update or revise such statements as a result of any event, circumstances or otherwise, unless required by applicable legislation or regulation.

Applying Science to Transform Lives

Our mission is to create transformative, life-changing treatments for patients who desperately need them

SCIENCE



Targeting pathways with known roles in pathogenesis

Novel compounds with improved potency/selectivity

DEVELOPMENT



Clinical efficacy confirmed via biomarkers

Pursuing expedited regulatory pathways








MARKET



Fatal or debilitating diseases with no approved therapies

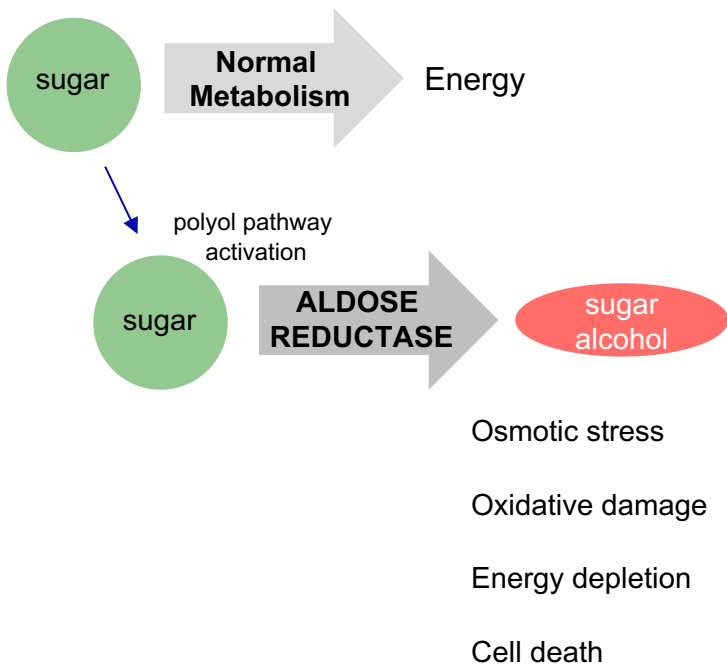
Limited / no competition

Innovative Pipeline with Near-Term Milestones

Compound	Preclinical	Phase 1	Phase 2	Phase 3	Dosing	Target Tissue	Milestones	WW Rights
ALDOSE REDUCTASE FRANCHISE								
AT-007	Galactosemia				QD Oral	CNS	Positive adult and pediatric biomarker data; pediatric Phase 3 outcomes trial ongoing	
AT-007	SORD Deficiency				Oral	CNS	Positive pilot study data; Phase 3 registrational trial ongoing	
AT-007	PMM2-CDG				Oral	CNS	Phase 2 ready; Expanded Access open	
AT-001	Diabetic Cardiomyopathy				BID Oral	Systemic	Ph 3 registrational trial initiated in Q3 2019; data expected 2023	
AT-001	Diabetic Peripheral Neuropathy				Oral	Peripheral Nerve	Sub-study embedded in DbCM Ph 3 trial	
AT-003	Diabetic Retinopathy				Oral	Retina	Ph 1 expected 2022	
PI3 KINASE FRANCHISE								
AT-104	PTCL, CTCL, TALL [†]				SC / Oral	Selective δ/γ inhibitor	Proof of concept preclinical	

[†]Peripheral T-cell lymphoma, cutaneous T-cell lymphoma and T-cell acute lymphoblastic leukemia

Aldose Reductase Inhibitor Overview



Aldose Reductase is an enzyme implicated in multiple metabolic diseases

First and rate limiting enzyme in the polyol pathway – an alternative metabolic pathway activated under stress

Converts sugar to reduced sugar alcohols, which are toxic

Leads to cell death through osmotic dysregulation, reactive oxygen species formation, and energy deficiencies

Prior attempts to inhibit Aldose Reductase were hindered by lack of selectivity and off-target tox issues

Applied Therapeutics' compounds are 1,000 X more potent than "old" ARIs and highly selective; no off-target inhibition of aldehyde reductase

AT-007: Blockbuster Opportunity with Late-Stage Programs in 2 Rare Diseases with High Unmet Need and No Approved Treatments

Galactosemia

- Positive adult and pediatric biomarker data
- Orphan Drug Designation
- Pediatric Rare Disease Designation
- Fast-Track Designation
- **Phase 3 pediatric outcomes study ongoing; powered for statistical significance at 18 months**

SORD Deficiency

- Preclinical proof of concept
- Positive pilot study results in SORD patients
- **Phase 3 study ongoing**
- **Biomarker data expected H2 2022; potential for accelerated approval**

~7,000 patients in US + EU in each indication (14,000 total)

Near-term revenue opportunity with Composition of Matter patent exclusivity through 2037

- Validated mechanism of action
- US payer feedback supports pricing/coverage
- Strong patient, caregiver, HCP interest
- Convenient, once-daily oral dosing
- Favorable safety and tolerability profile
- Small commercial footprint needed
- Commercialization prep underway
- Low cost of goods; oral suspension

AT-001: Potential First Therapy in Diabetic Cardiomyopathy, a Highly Prevalent Disease with Blockbuster Potential

Diabetic Cardiomyopathy

- Heart Failure affecting ~20% of diabetics
- Positive proof of concept in Phase 1/2
- ARISE-HF global Phase 3 trial ongoing; data expected 2023
- No drugs approved; potential first disease-modifying treatment in DbCM

DbCM potential market ~6M patients US; 5M EU5

Diabetic Peripheral Neuropathy

- Affects >30% of diabetics
- Proof of concept with “old” ARIs
- Phase 2 sub-study embedded in ARISE-HF DbCM Phase 3
- Although pain drugs are approved for symptomatic treatment, no disease-modifying treatments exist; Potential first disease-modifying treatment in DPN

DPN potential market ~9M patients US; 7M EU5

- Validated mechanism of action
- Demonstrated proof of concept
- Patent exclusivity through 2031

- Convenient, twice-daily oral dosing
- Favorable safety and tolerability profile
- Strong KOL support

- Low cost of goods; oral capsules
- Payer feedback supports pricing on par with Entresto / SGLTs

AT-007

GALACTOSEMIA

- Orphan Drug Designation
- Pediatric Rare Disease Designation (PRV)
- Fast-Track Designation

Positive adult & pediatric biomarker data

Pediatric Ph 3 clinical outcomes study ongoing



Galactosemia is a Rare Metabolic Disease With No Approved Therapies and Significant Unmet Need

Disease Overview

- Rare autosomal recessive metabolic disease caused by deficiencies in the GALT or GALK enzymes
- Patients are unable to metabolize the simple sugar galactose, which is found in foods but also synthesized endogenously by the body
- Results in long-term CNS complications including speech, cognition, behavior and motor skills deficiencies; ovarian insufficiency in females
- Progressively worsens with age

Mechanism of Disease

- People with Galactosemia are unable to metabolize galactose, which accumulates in cells and tissues
- At abnormally high levels, galactose becomes a substrate for Aldose Reductase, which converts galactose to a toxic and aberrant metabolite, galactitol
- Galactitol is highly toxic (especially to neurons) and causes redox derangement, cell death
- Plasma galactitol level correlates with severity of disease

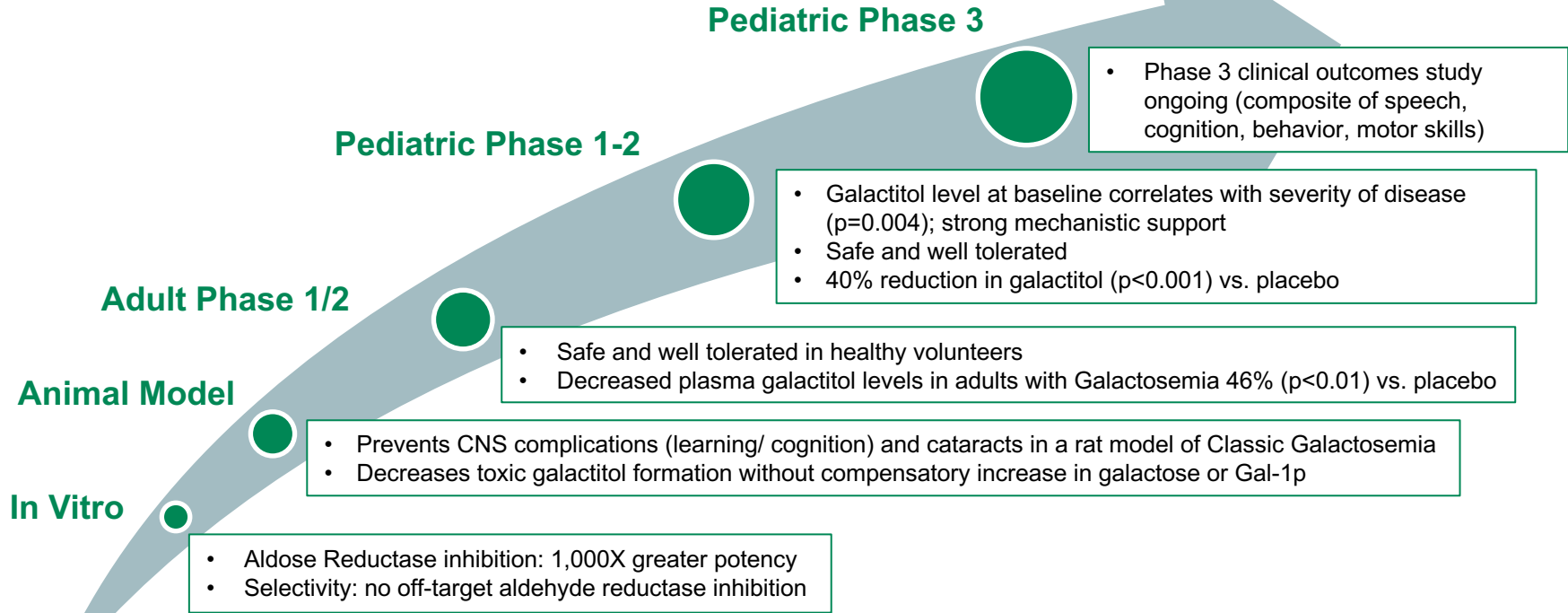
Standard of Care/ Diagnosis

- No approved therapies to treat Galactosemia
- Mandatory newborn screening in US and most EU countries
- Galactose-restricted diet implemented immediately after birth and adhered to for life
- Dietary restriction prevents newborn fatalities but does not prevent long-term CNS complications due to endogenous galactose production by the body
- Patients are primarily seen by metabolic geneticists

Market Size / Opportunity

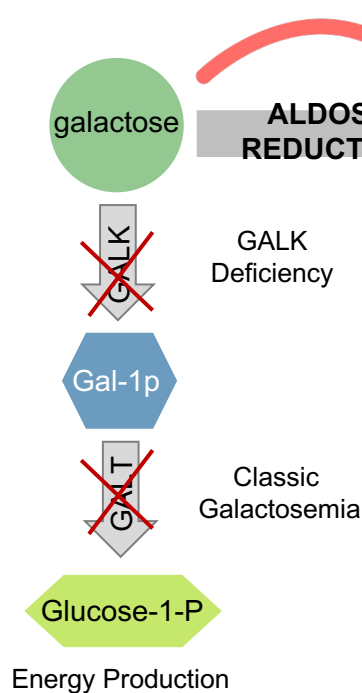
- \$1.25B+ WW peak sales potential (US, EU28, JP)
- Known prevalent and addressable population (~3K US, ~7K WW)
- Small commercial footprint focused on KOLs at Centers of Excellence
- Strong patient community engagement
- Payer feedback supports access/pricing
- Composition of matter IP through 2037

AT-007 Has Demonstrated Effectiveness In Vitro, In Vivo, and in Phase 1/2 Clinical Trials; Registrational Study Readout 2023

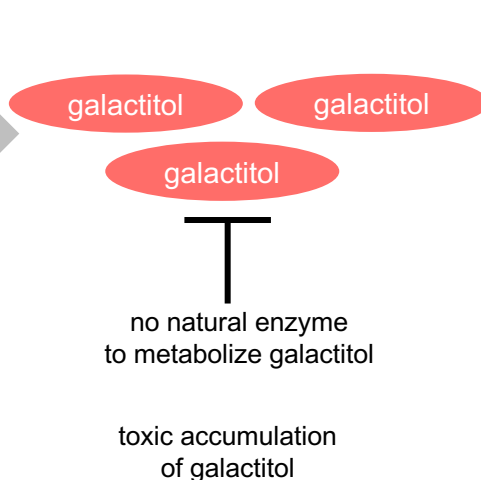


Deficiency in GALT or GALK Leads to Inability to Metabolize Galactose; AR Converts Excess Galactose to Toxic Galactitol

NORMAL METABOLISM



GALACTOSEMIA



• **CNS Complications:**

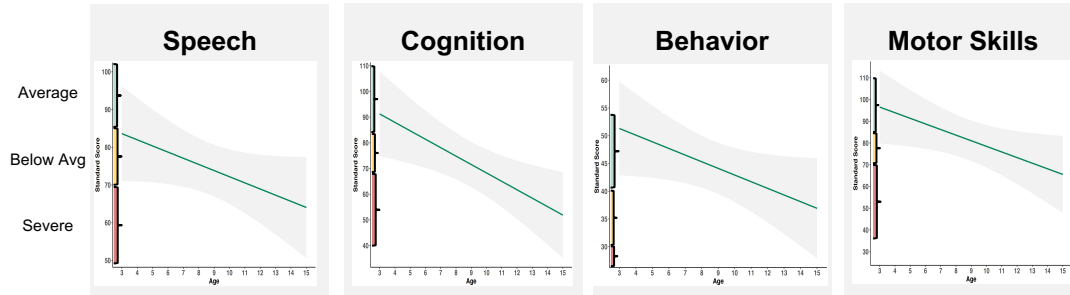
- Speech Deficiencies
- Cognition/ Learning/ IQ/ Memory
- Behavior/ Psychiatric
- Motor Skills (Tremor, Ataxia)
- Seizures

• **Other Complications:**

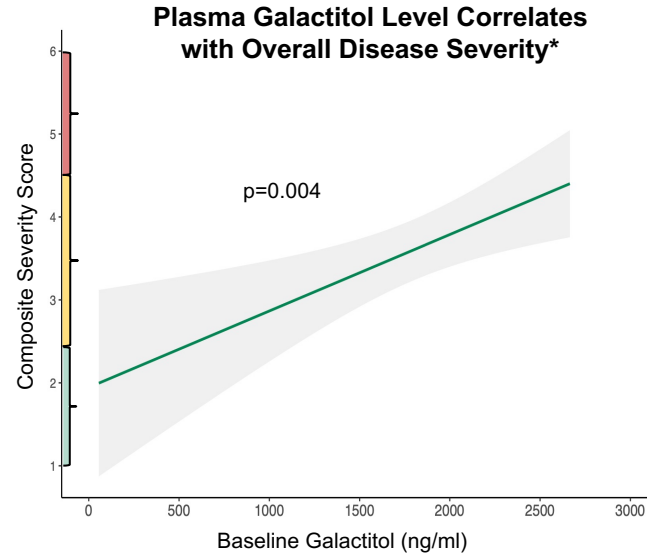
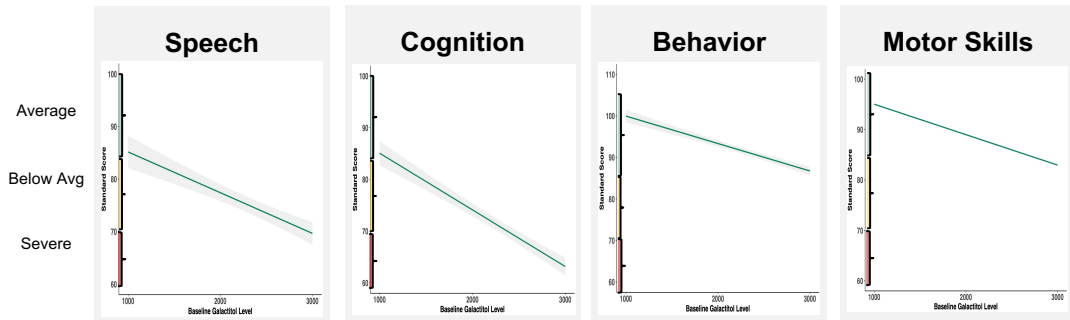
- Ovarian Insufficiency
- Cataracts

Natural History: Galactosemia is a Progressive Disease that Worsens with Age; Disease Severity Correlates with Plasma Galactitol Level

Natural history of disease demonstrates progressive worsening with age



Baseline galactitol level correlates with severity of clinical functional outcomes

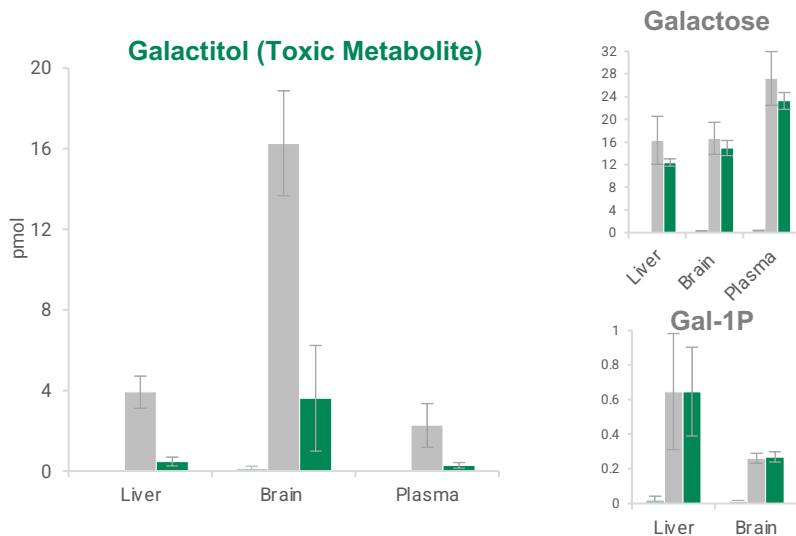


*Overall severity based on composite score comprised of 4 CNS quadrants

No correlation observed between Gal-1p and disease severity

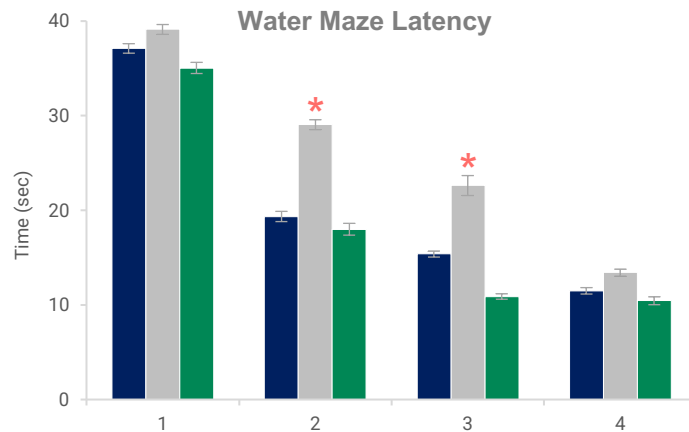
In a Rat Model of Galactosemia, AT-007 Significantly Reduced Toxic Galactitol Levels in All Target Tissues and Normalized the CNS Phenotype

AT-007 treatment decreased galactitol levels in liver, brain and plasma; no compensatory increase in galactose or Gal-1p



● Wild Type ● GALT null placebo ● GALT null AT-007

AT-007 treatment normalized CNS outcomes on both water maze and rotarod

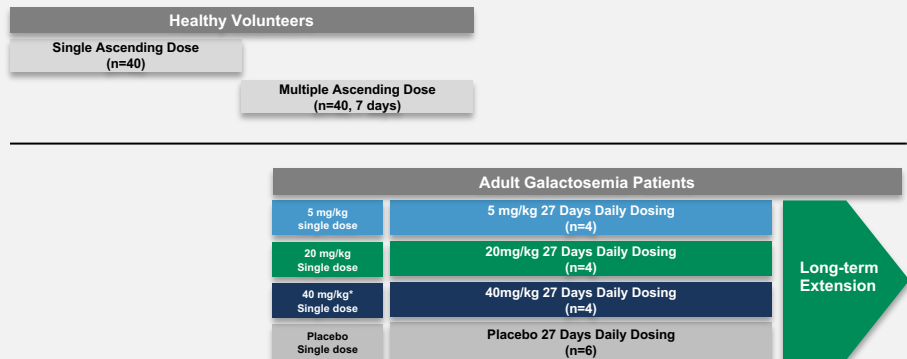


*p<0.01 GALT null placebo vs WT & AT-007-treatment

● Wild Type ● GALT null placebo ● GALT null AT-007

AT-007 Significantly Reduced Galactitol Levels in the Galactosemia Adult Phase 1/2 Study (ACTION-Galactosemia); Safe and Well-Tolerated

Adult Phase 1/2 Study Design



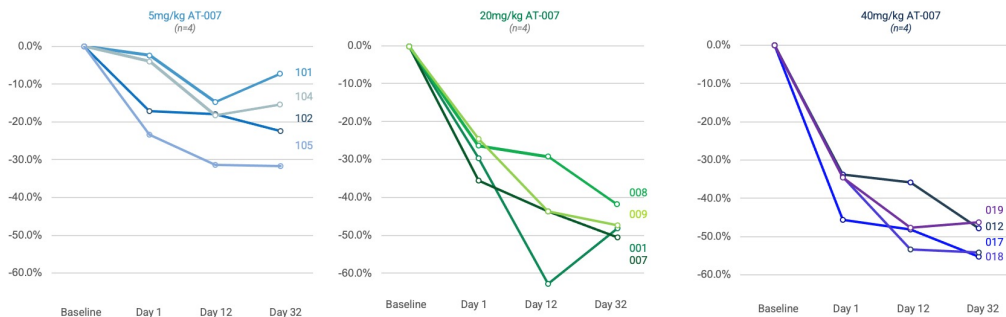
Safety

- Favorable safety and tolerability in core study and 3-month extension

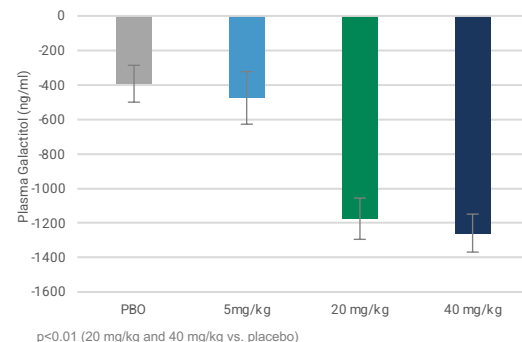
Pharmacokinetics/ Pharmacodynamics

- 20mg/kg dose selected as optimal dose
- PK supports once-daily dosing
- Rapid, sustained and significant reduction in plasma galactitol
- Galactitol reduction in the brain demonstrated by MR Spectroscopy
- No compensatory increase in galactose or Gal-1p

Galactitol Reduction vs. Baseline (Individual Patient Values)



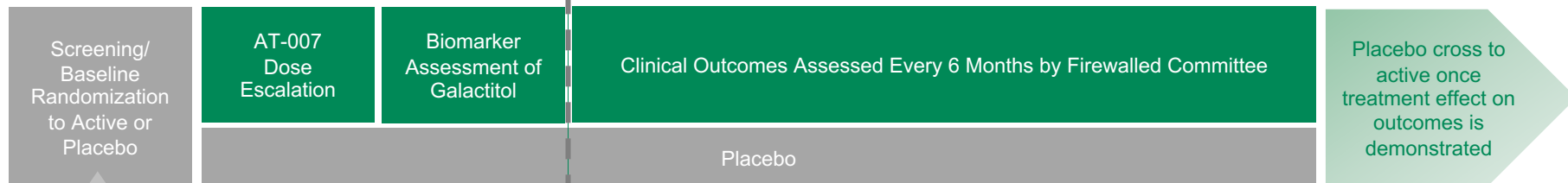
Maximum Galactitol Reduction vs. Baseline



AT-007 Significantly Reduced Galactitol Levels in the ACTION-Galactosemia Kids Pediatric Registrational Clinical Study

PK/PD Dose Range Finding & Biomarker Data

Long-Term Clinical Outcomes

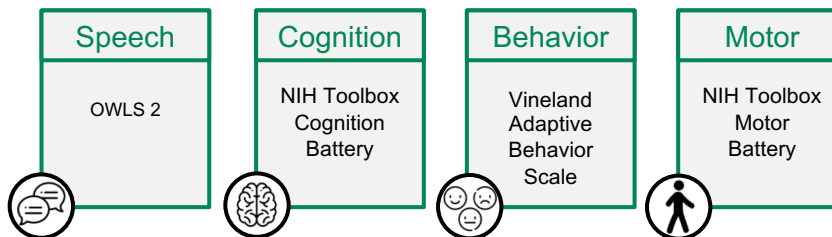


Significant Reduction in Galactitol in Children Aged 2-17 with Weight-Based Dosing

Weight Group	AT-007 Dose (QD)	% Reduction From Baseline
>40kg	15mg/kg	38.29%
20-40kg	20mg/kg	41.43%
<20kg	30mg/kg	39.83%
All groups	15-30mg/kg	40.19% (p<0.001)

- Safe and well tolerated
- No compensatory increase in galactose or Gal-1p

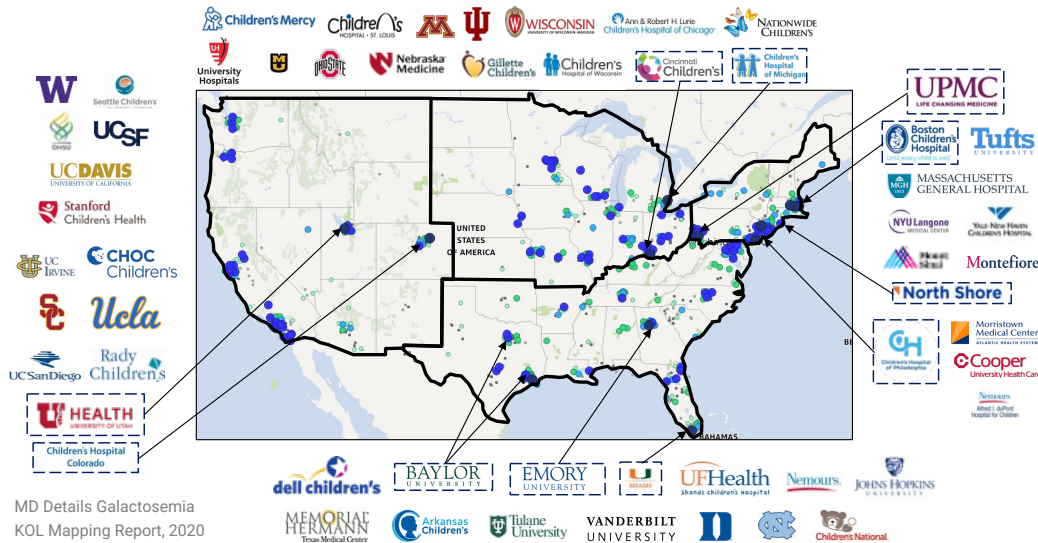
Primary Endpoint: Global Assessment of Change - Composite of 4 CNS quadrants



Secondary Endpoints: Global Impression of Change; SARA; Archimedes Spiral Drawing; BASC (each assessed independently)

Commercial Preparations On-Track for U.S. Galactosemia Launch

U.S. Map of Galactosemia KOL Medical Genetics Centers of Excellence (COEs)*



Commercialization Preparations Support an Optimized Launch at Approval

- Sales force segmentation, targeting and territory mapping completed; focused on Medical Geneticists
- Claims Data Analysis supports US market size of ~3K patients
- Cross-functional brand plan in place to drive access, awareness, trial, usage of AT-007 upon approval
- Market research shows strong HCP, patient interest for treatment
- Single-source Specialty Pharmacy and Hub selected and ready to begin infrastructure build
- Payer research indicates access/coverage at launch with rare-disease level pricing

Award Winning DSA Campaign Performance Reflects Underlying Strong Demand for Galactosemia Education and Treatment

GALACTOSEMIA TOGETHER



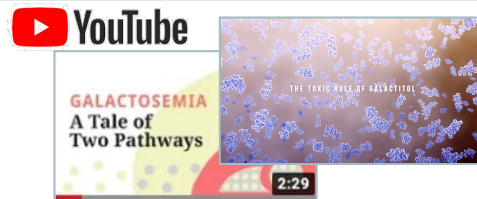
Engaging the Galactosemia Community through Social

537 // **35,000+**
Facebook followers post views



Support and Education at Galactosemia.com

100,000+ // **80,000+**
website visitors high valued engagements



Sharing the Galactosemia Story via 2D & 3D MOD Videos

48,000+
complete video views

Awards



WEBAWARDS 2021



AT-007

SORD

DEFICIENCY

- Orphan Drug Designation

Preclinical proof of concept demonstrated

Positive pilot study completed

Registrational Phase 2/3 study ongoing



SORD Deficiency is a Rare Neurological Disease with No Approved Therapies and High Unmet Need

Disease Overview

- Sorbitol Dehydrogenase Deficiency (SORD Deficiency) is a progressive, debilitating hereditary neuropathy that affects peripheral nerves and motor neurons, resulting in significant disability, loss of sensory function and decreased mobility
- Autosomal recessive genetic disease, caused by mutations in the SORD gene resulting in loss of SORD enzyme function
- Average age of onset is 17 years old

Mechanism of Disease

- Patients with SORD Deficiency are unable to metabolize sorbitol
- Aldose Reductase converts glucose to sorbitol, which then accumulates at up to 100X normal levels in patients with SORD Deficiency
- Sorbitol is toxic to cells (especially neurons), resulting in osmotic stress, redox derangement and energetic destabilization

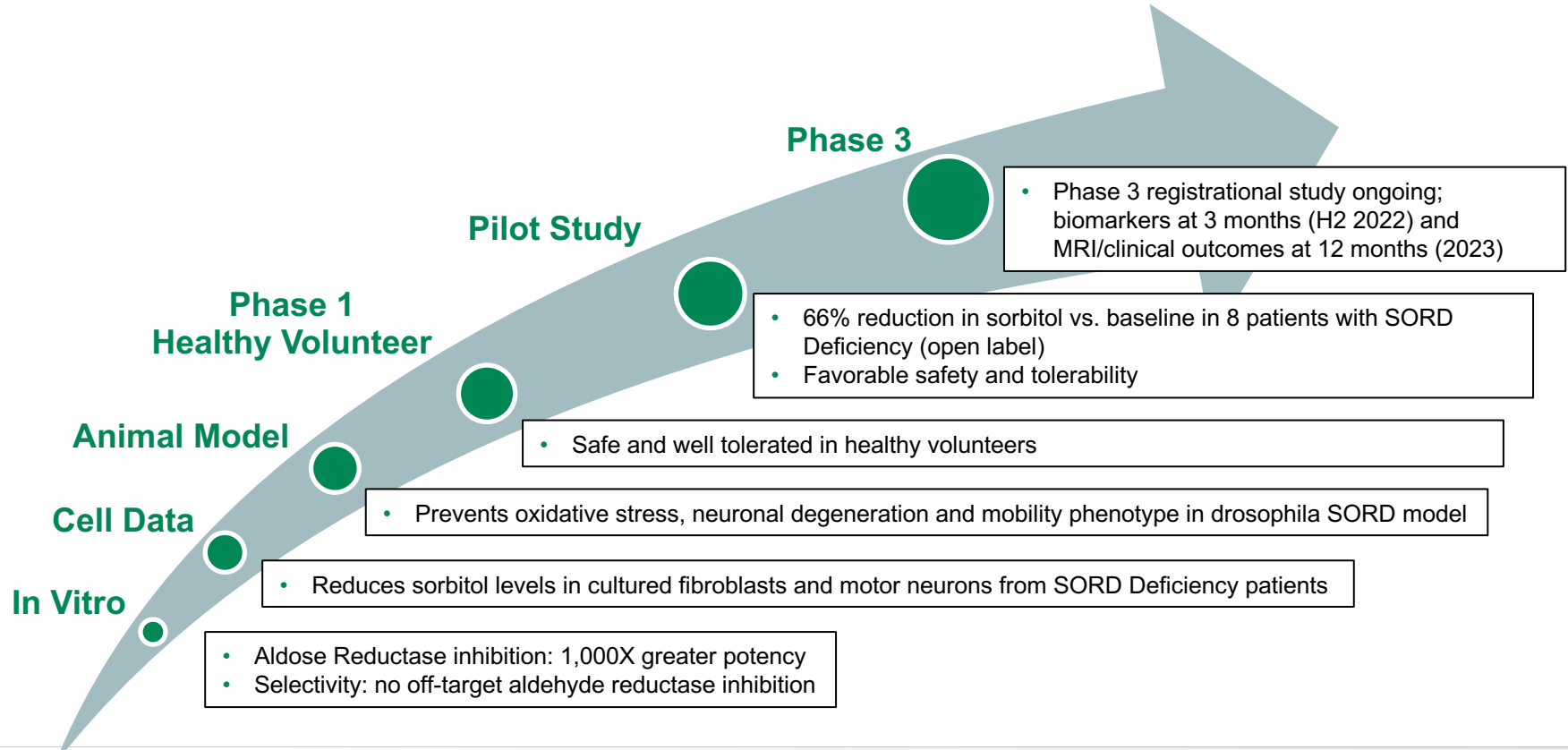
Standard of Care/ Diagnosis

- No approved therapies to treat SORD Deficiency
- Genetic testing commercially available (GeneDx)
- Prior to 2020, patients were diagnosed symptomatically as CMT2 or dHMN; new screening efforts are quickly re-categorizing CMT2/dHMN patients with SORD
- Primarily treated by neurologists/ neuromuscular specialists at Inherited Neuropathy Consortium (INC) Centers of Excellence

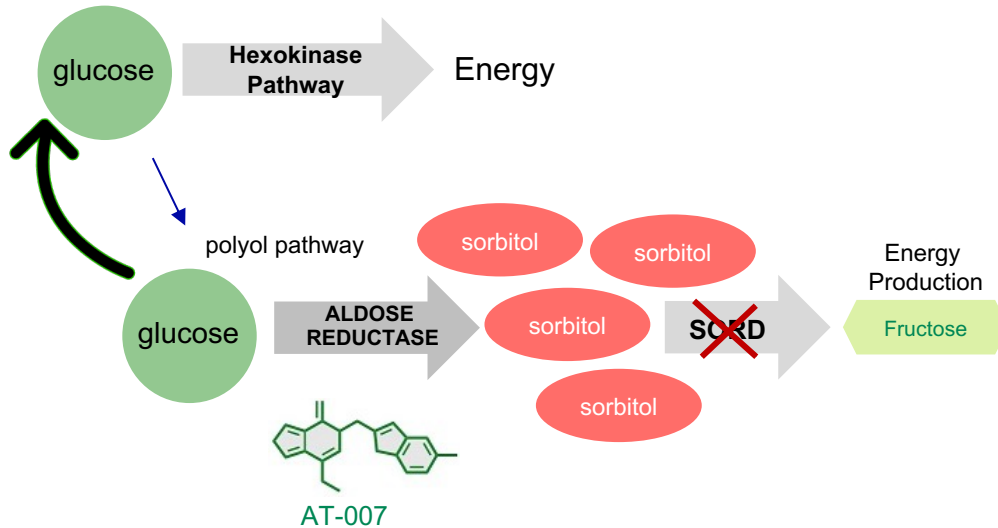
Market Size/ Opportunity

- \$1.9B+ WW peak sales potential, \$1.2B+ in US
- ~3,300 individuals in the US with SORD Deficiency; 7,000 US+EU combined
- Small commercial footprint focused on KOLs at COEs
- Strong patient community engagement
- Payer feedback supports access/pricing
- Composition of matter IP through 2037; IP covering ARI treatment of SORD Deficiency through 2040

AT-007 Has Demonstrated Effectiveness In Vitro, In Vivo, and in a SORD Pilot Study; Phase 3 Biomarker Data Expected in 2022; Outcomes 2023



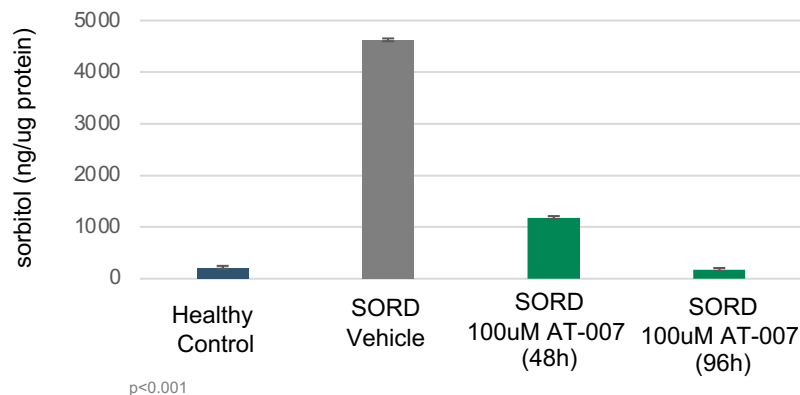
Aldose Reductase Inhibition Addresses the Underlying Cause of SORD Neuropathy by Preventing Conversion of Glucose to Sorbitol



- People with SORD Deficiency are missing the SORD enzyme, which follows Aldose Reductase in the polyol pathway
 - As a result, people with SORD Deficiency are unable to metabolize sorbitol
 - Sorbitol accumulates in blood, cells and tissues at very high levels
 - High toxic sorbitol levels result in cell death and tissue degeneration, leading to neuropathy

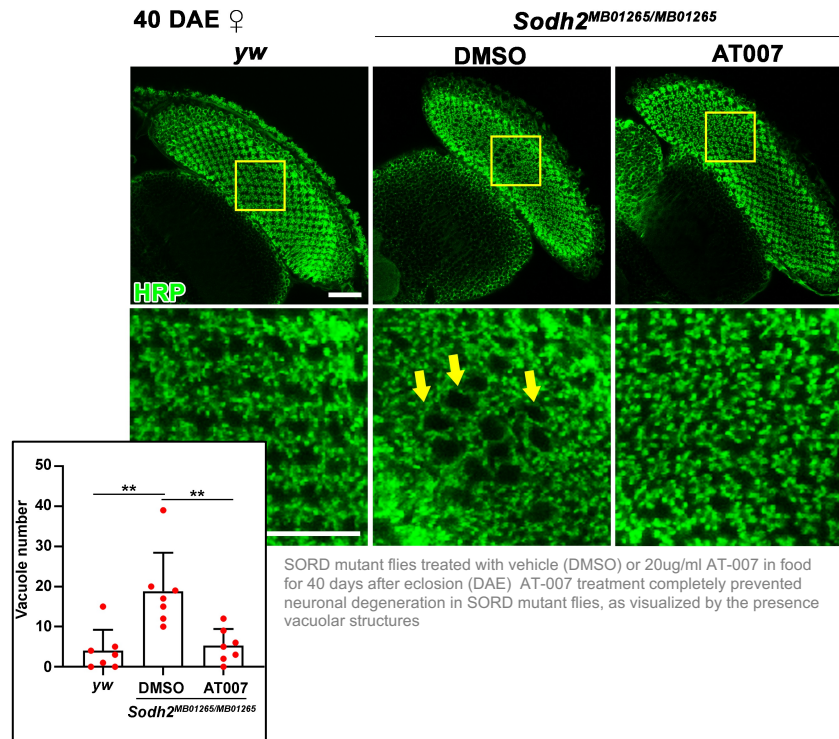
AT-007 Treatment Reduces Sorbitol Levels in SORD Patient Cells; Prevents CNS Phenotype in a Drosophila SORD Deficiency Model

Sorbitol Reduction in Patient Fibroblasts with AT-007 Treatment



- Cultured fibroblasts from SORD patients accumulate sorbitol levels up to 100X higher than healthy controls
- Treatment with AT-007 in culture significantly reduced sorbitol levels

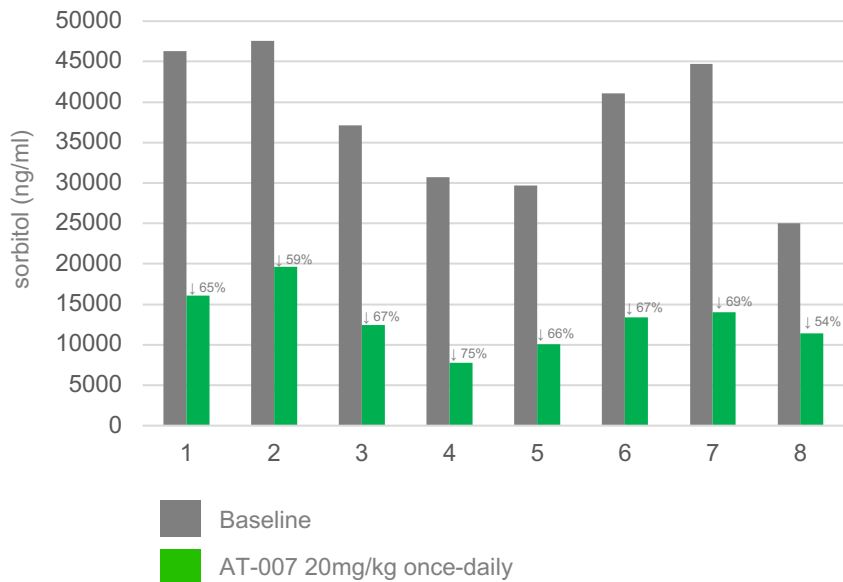
AT-007 Prevents the SORD Disease Phenotype in Drosophila



AT-007 Significantly Reduced Sorbitol in Patients with SORD Deficiency in 30-Day Open-Label Pilot Trial

Pilot open-label study data in 8 SORD patients demonstrated **66%** mean reduction in sorbitol (range 54%-75%)

Sorbitol Level Baseline vs. AT-007 Treatment



Mean baseline sorbitol level was ~38,000ng/ml; individual % reduction from baseline noted above green bar

Safety

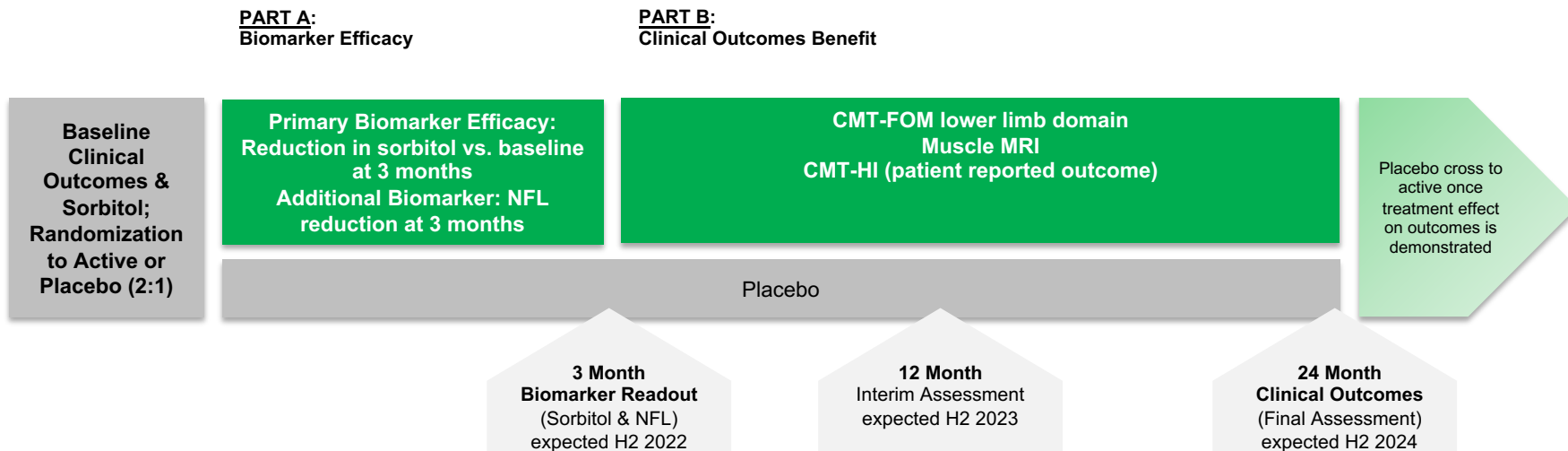
- AT-007 safe and well tolerated; no SAEs

Pharmacokinetics/ Pharmacodynamics

- Rapid and sustained reduction in sorbitol
- No compensatory increase in glucose level

SORD Neuropathy Phase 2/3 Registrational Study (INSPIRE)

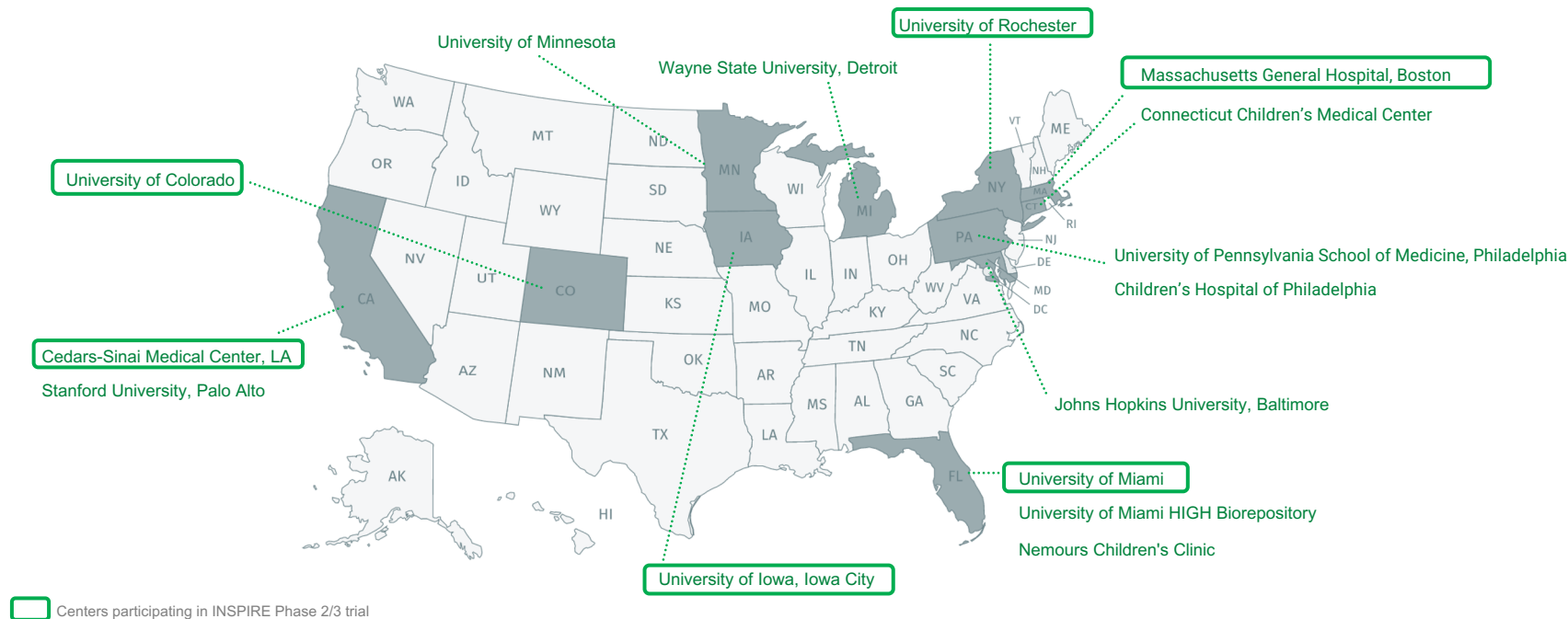
Double-Blind, Randomized, Placebo-Controlled Multi-Center Study in ~50 SORD Patients ≥ 16 years old



Global clinical sites: US, EU, UK

*CMT-FOM lower limb domain includes: 10m walk/run; timed stairs; timed up-and-go

Inherited Neuropathy Consortium Centers of Excellence and Global CMT Registries Exist to Support Trial Enrollment & Treatment

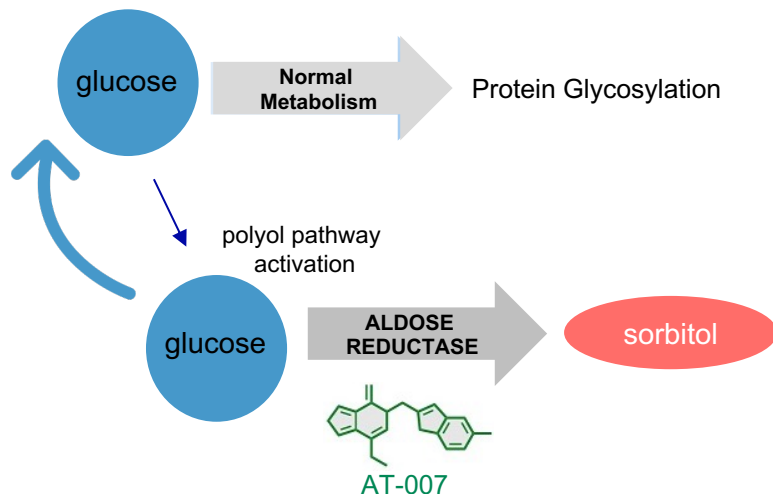


PMM2-CDG

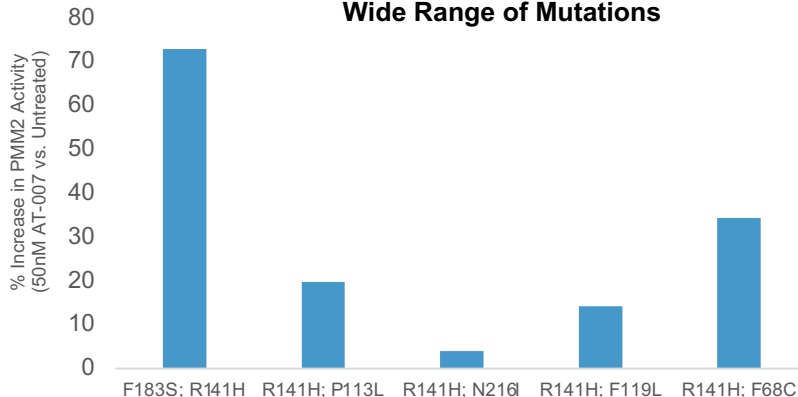
Aldose Reductase Inhibition Improves PMM2 Activity AT-007 Granted Orphan & Pediatric Rare Disease Designation for PMM2-CDG; Single-Patient IND Open – Phase 2 Ready

PMM2-CDG[†], is an ultra-rare mutation of the PMM2 gene (phosphomannomutase) which **results in loss of PMM2 protein function and systemic deficient glycosylation of proteins, disrupting the function of critical tissues and organs**

Sorbitol is a biomarker of PMM2-CDG severity



AT-007 Treatment Increases PMM2 Activity in a Wide Range of Mutations



- AR inhibition blocks the polyol pathway, restoring glucose flow through normal metabolic pathways
 - Promotes proper balance of precursor sugars necessary for protein glycosylation
 - Results in increased PMM2 activity and protein glycosylation

High unmet need with no approved therapies; ~1K cases WW, 20% infant mortality

AT-001

DIABETIC

CARDIOMYOPATHY

Phase 1/2 pilot study completed
Registrational Phase 3 study ongoing



Diabetic Cardiomyopathy is a Form of Heart Failure Affecting ~20% of Diabetics; Significant Unmet Need with No Approved Treatments

Disease Overview

- Form of Heart Failure (Stage B) causing structural cardiac damage and resulting in decreased cardiac functional capacity
- Affects ~20% of diabetics
- Diagnosed by echocardiogram or elevated cardiac biomarkers (NTproBNP or troponin)

Standard of Care

- No approved therapies to treat DbCM or prevent progression to overt heart failure/ death
- Once DbCM patients have developed overt HF, they are eligible for standard HF therapies in addition to standard diabetes treatments

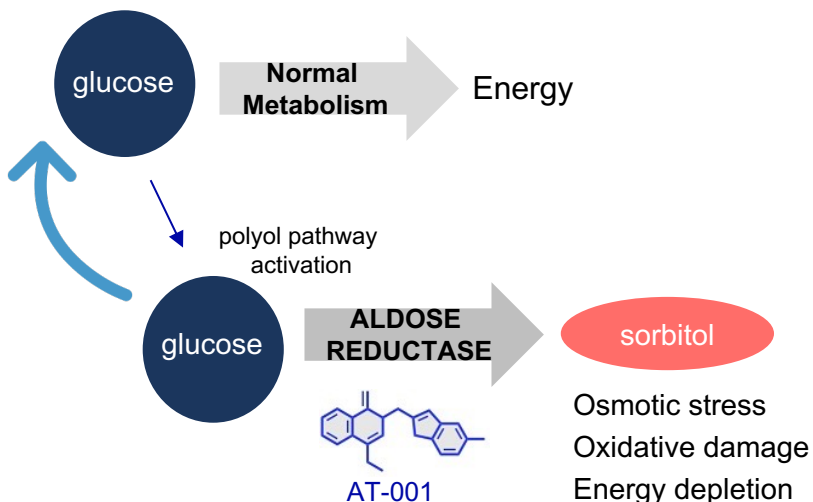
Mechanism of Disease

- Hyperactivation of the polyol pathway is a key underlying mechanism in DbCM
- Aldose Reductase activation causes intracellular sorbitol accumulation, osmotic stress, cell death, generation of ROS and impaired cardiac energetics
- Previous AR inhibitors demonstrated clinical efficacy, but were associated with off-target safety signals due to lack of selectivity

Market Size/ Opportunity

- Blockbuster potential
- Addressable population of ~6M patients US, 5M in EU5
- Anticipated pricing in line with Entresto & SGLT2s
- Composition of matter IP through 2031

DbCM: Mechanism of Disease



Both Type 1 and Type 2 diabetes results in hyperglycemia; the polyol pathway is then hyperactivated to rid the body of the excess glucose

Aldose Reductase, the first and rate limiting enzyme in the polyol pathway, converts this glucose into sorbitol and eventually fructose

Excess sorbitol and fructose cause several downstream processes that result in cell death, including osmotic dysregulation and ROS formation

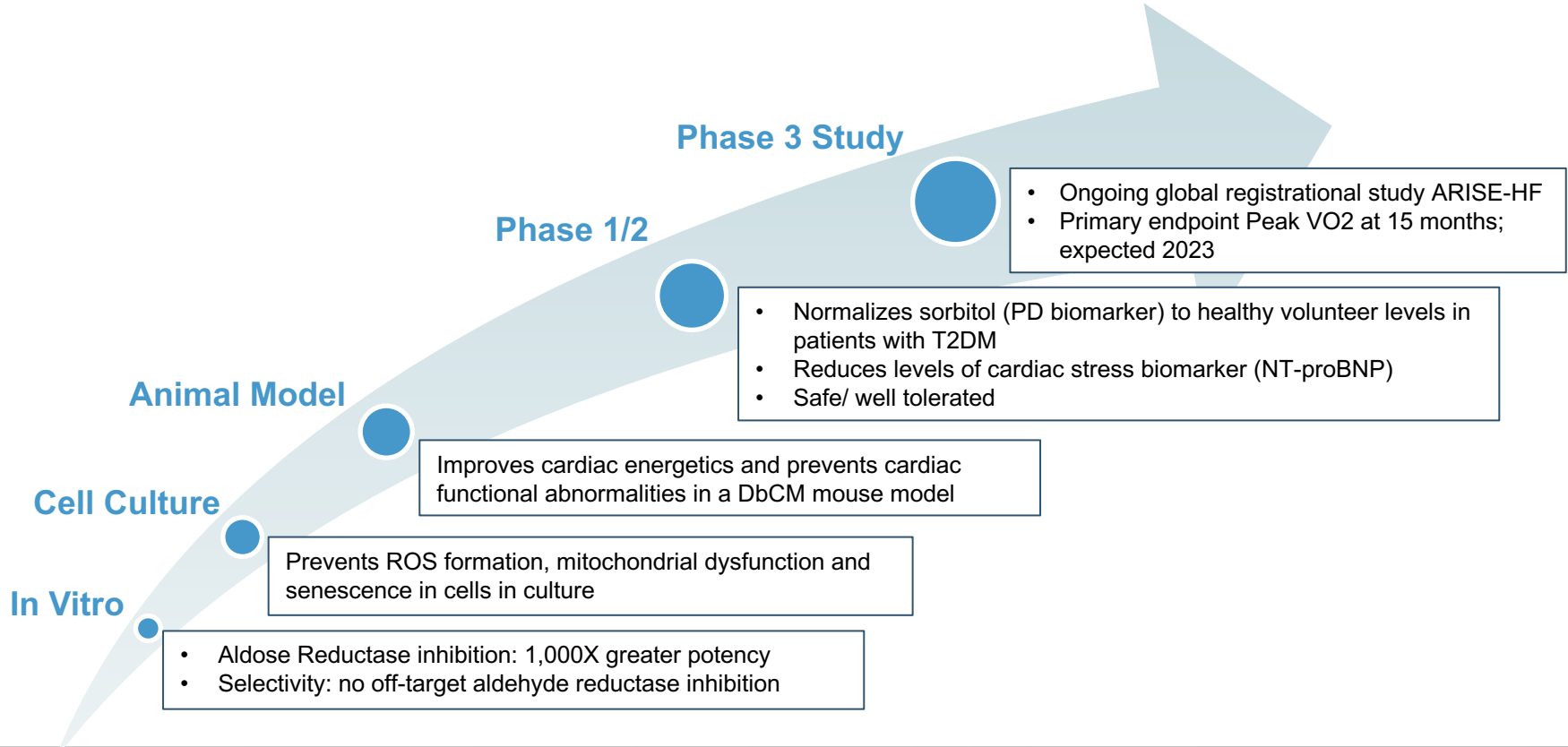
AR activation also detracts glucose from the energy efficient hexokinase/glycolytic pathway, resulting in less energy production for cardiomyocytes

This results in heart fibrosis, a “hardening” of the heart muscle, which means it cannot effectively pump blood to the rest of the body

Diabetic Cardiomyopathy is a Form of Stage B Heart Failure

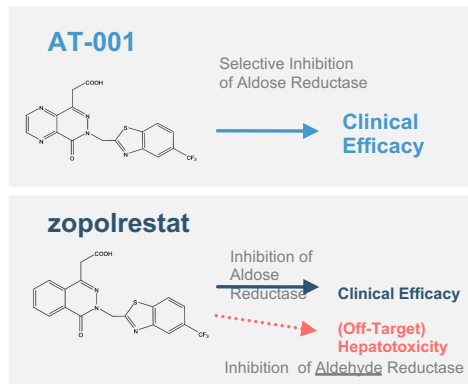
Diabetes Stage A Heart Failure	<ul style="list-style-type: none"> Metabolic derangement of the myocardium due to diabetes 	Functional Capacity (Peak VO ₂)	NTproBNP (Cardiac Stress Biomarker)
DbCM Stage B Heart Failure	<ul style="list-style-type: none"> Cardiac structural abnormalities (LVH, GLS, LAE, E/e') Early symptoms of DbCM; noticeable impact on activities Impaired functional capacity (~75% normal) 	<div data-bbox="1161 241 1309 390">~28 ml/kg/min</div> <div data-bbox="1325 377 1543 473"><75% predicted normal</div> <div data-bbox="1161 423 1309 573"><20 ml/kg/min</div>	<div data-bbox="1630 255 1848 377">0-5 pg/ml (normal range)</div> <div data-bbox="1630 440 1848 554">6-300 pg/ml</div>
Stage C Heart Failure	<ul style="list-style-type: none"> Overt Heart Failure HFpEF or HFrEF Significant impact on daily activities 	<div data-bbox="1161 590 1309 751">10-15 ml/kg/min</div> <div data-bbox="1325 573 1543 669"><50% predicted normal</div>	<div data-bbox="1630 623 1848 740">300-1,000 pg/ml</div>
Stage D Heart Failure	<ul style="list-style-type: none"> Refractory Heart Failure requiring specialized interventions (e.g. LV Assist Device) Inability to complete daily activities 	<div data-bbox="1161 778 1539 934"> <ul style="list-style-type: none"> ~24% of DbCM patients progress to overt heart failure or death within 1.5 years 37% within 5 years </div>	<div data-bbox="1630 801 1848 918">>1,000 pg/ml</div>

AT-001 Has Demonstrated Effectiveness In Vitro, In Vivo, and in Phase 1/2 Clinical Trials; Registrational Study Readout Expected 2023



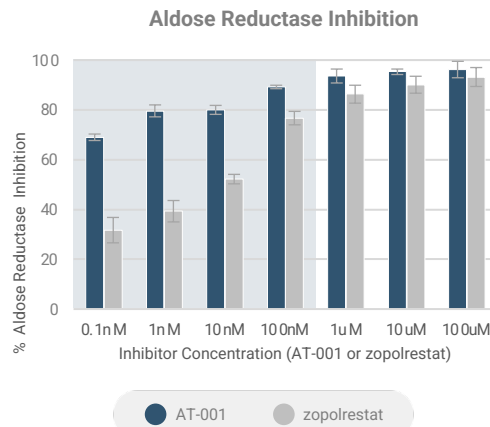
In Vitro: AT-001 Provides Greater Potency and Improved Target Selectivity vs. “Old” Aldose Reductase Inhibitors

Applied Therapeutics' **AT-001** was developed to selectively inhibit Aldose Reductase with 1,000X greater potency and *without* off-target inhibition of Aldehyde Reductase²



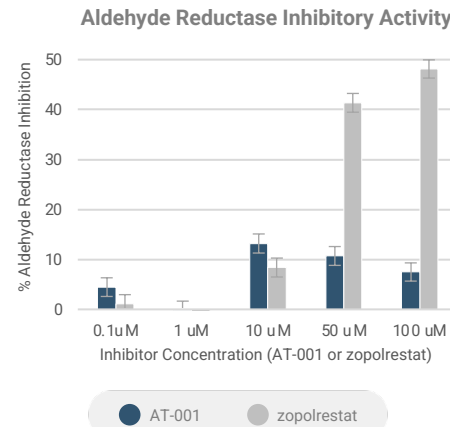
Compound	IC ₅₀	MTD in animals	Tissue Penetration (in rats)			
			Systemic/Heart	Nerve	Retina	CNS
AT-001	30pM	>2,000mg/kg	✓	✓	✓	✗
zopolrestat	10nM	100mg/kg	✓	✓	✗	✗

AT-001 demonstrated improved IC₅₀ and IC₉₀ vs. zopolrestat



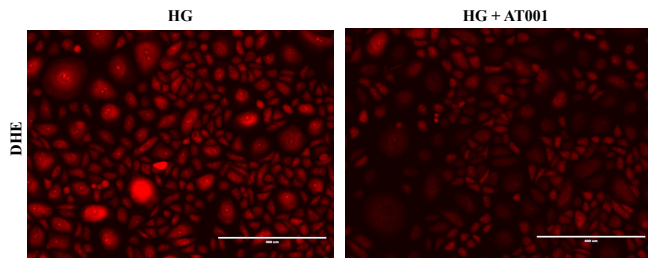
Data based on In Vitro Enzyme Inhibition & Cultured Hepatocytes

Unlike zopolrestat, AT-001 does not inhibit Aldehyde Reductase

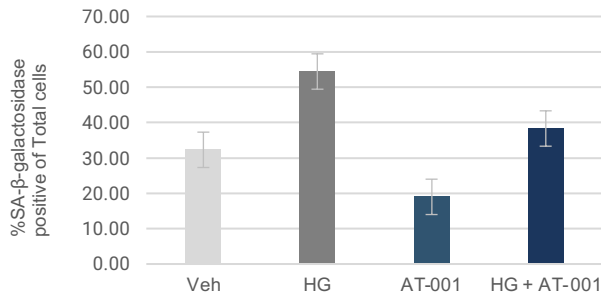


AT-001 Treatment Prevents Reactive Oxygen Species Generation, Mitochondrial Stress & Cell Aging Caused by High Glucose Exposure

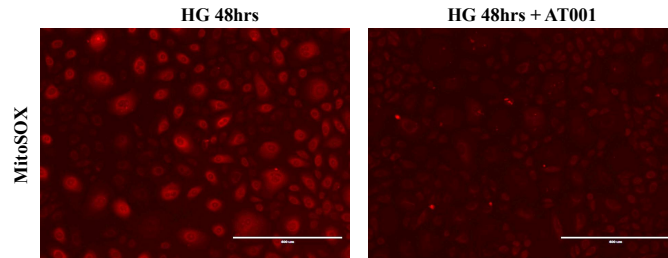
Dihydroethidium (DHE) Staining for Cytosolic ROS



Quantitation of Cell Senescence Via SA- β -gal Staining



MitoSOX™ Staining for Mitochondrial ROS



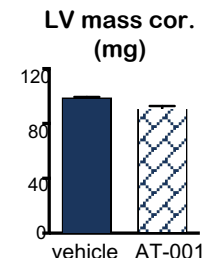
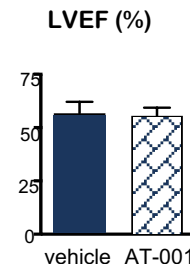
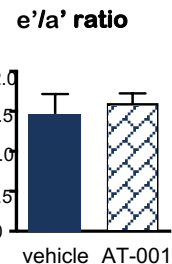
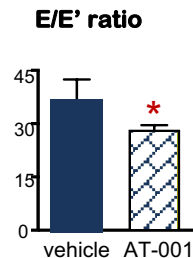
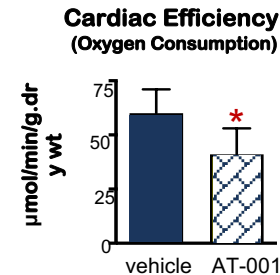
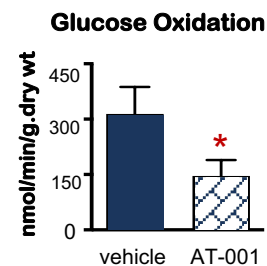
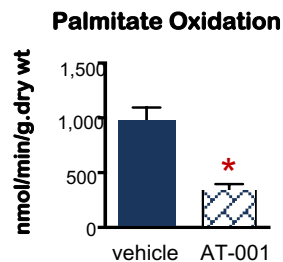
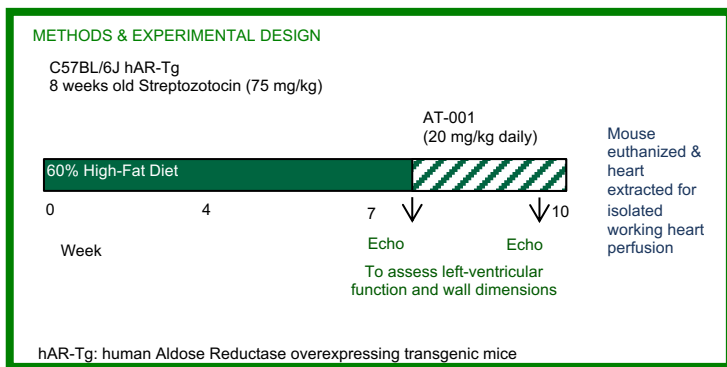
HG- NHK cells exposed to 25mM glucose (high glucose) for 48hrs

HG + AT-001 - cells treated with 0.18nM AT-001 along with above mentioned HG exposure

- In patients with diabetes, metabolism of glucose through the polyol pathway results in generation of Reactive Oxygen Species (ROS), which has been identified as a key mediator of tissue damage and causal in diabetic complications. Selective inhibition of AR reduces oxidative stress and mitigates these complications.
- AT-001 prevents the production and accumulation of ROS as assessed by both DHE quantitation and MitoSOX™ staining, demonstrating effective reduction of oxidative damage in the cytosol and mitochondria of cells.
- Evaluation of cellular aging via SA- β -gal staining showed less senescence in cells exposed to high glucose in the presence of AT-001

AT-001 Prevents Abnormal Cardiac Energy Metabolism and Improves Heart Function in an Animal Model of DbCM

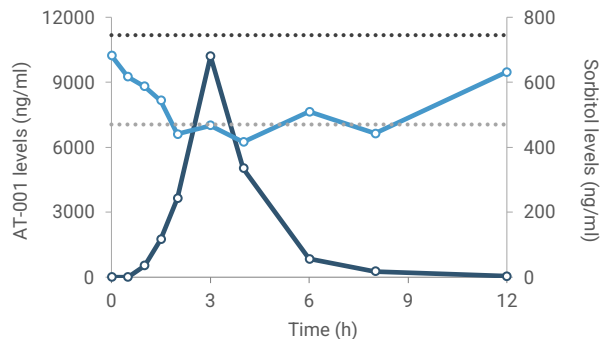
- AT-001 treatment prevents cardiac structural and functional abnormalities in a mouse model of DbCM, and normalizes cardiac energetics by shifting cardiac metabolism towards a non-diabetic metabolic state



* = p<0.01

Phase 1: AT-001 Normalizes Sorbitol, a Biomarker of AR Activity, in Diabetic Patients

Proof of Biological Activity

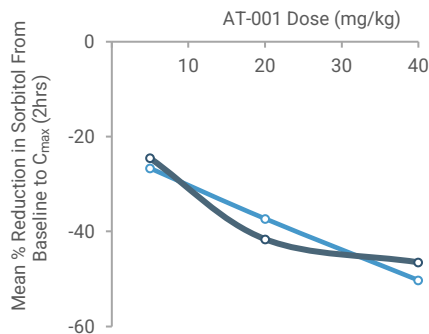


— Sorbitol (whole blood) — Healthy volunteer sorbitol avg.
 — AT-001 levels — Diabetic patient sorbitol avg.

AT-001 normalized sorbitol in diabetics to healthy volunteer levels

No compensatory increase in glucose level

Sorbitol Reduction by Dose

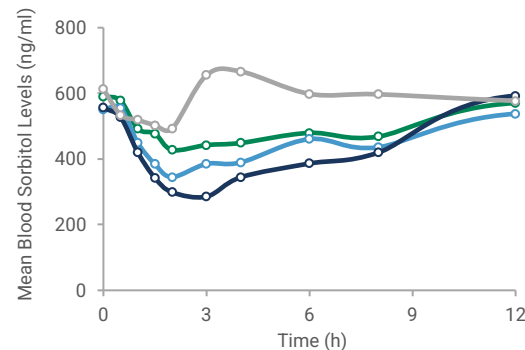


— Day 1 — Day 7

Mean reduction in sorbitol at Day 1 and Day 7: Results are persistent over 1 week of treatment

At 40mg/kg patients were normalized to healthy volunteer sorbitol levels, demonstrating complete AR inhibition

Sorbitol Normalization Over Time



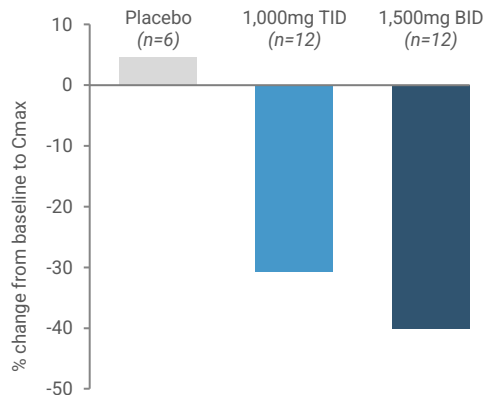
— Placebo — 5mg/kg
 — 20mg/kg — 40mg/kg

Rapid release capsule provides sorbitol normalization effects (PD biomarker) through **10-12hrs post-dose** at >10mg/kg

Includes protection from food-related sorbitol spikes during times of post-prandial hyperglycemia

Phase 2: AT-001 Reduced Levels of NTproBNP Cardiac Stress Biomarker Over 28 Days

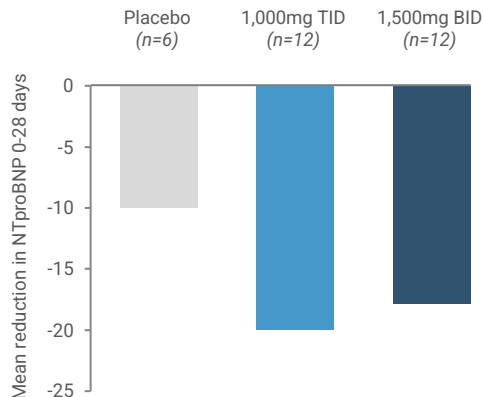
Sorbitol Normalization



Significant sorbitol reduction achieved by both 1,000mg TID and 1,500mg BID AT-001

Higher Cmax achieved with BID slightly beneficial — normalizes sorbitol to healthy volunteer levels

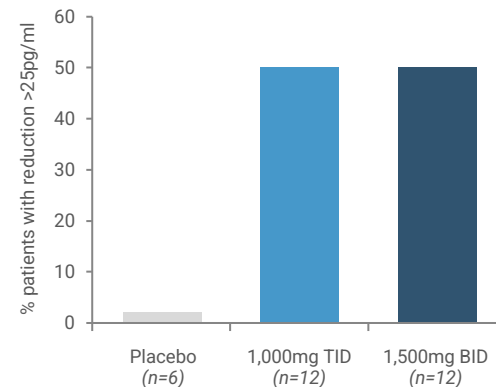
Mean Reduction in NTproBNP



Mean reduction in NTproBNP seen over 28 days vs. placebo

Mean baseline NTproBNP was 65pg/ml

Clinical Responder Analysis

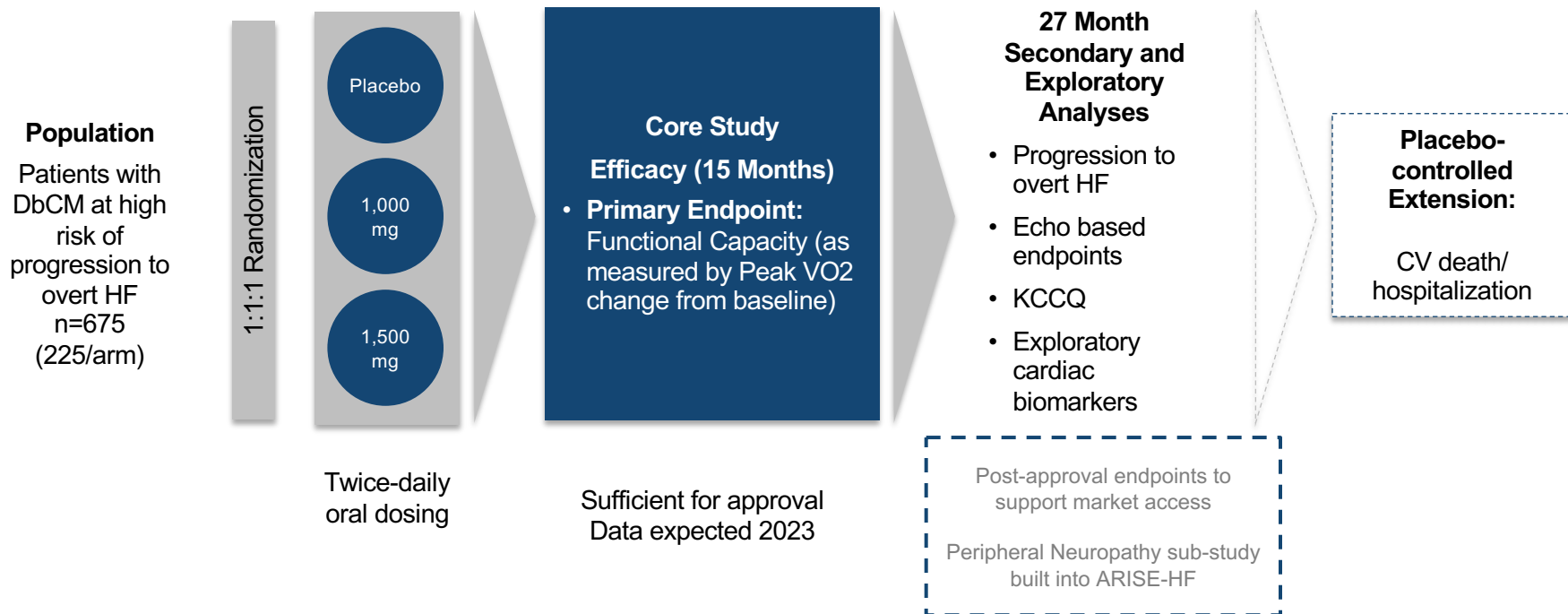


~50% AT-001 treated patients demonstrated a clinically meaningful reduction in NTproBNP over 28 days

>25pg/ml reduction from baseline

DbCM Phase 3 Registrational Study (ARISE-HF)

Randomized, Placebo-Controlled Study in DbCM Patients at High Risk of Progression



Key Projected Milestones by Program

