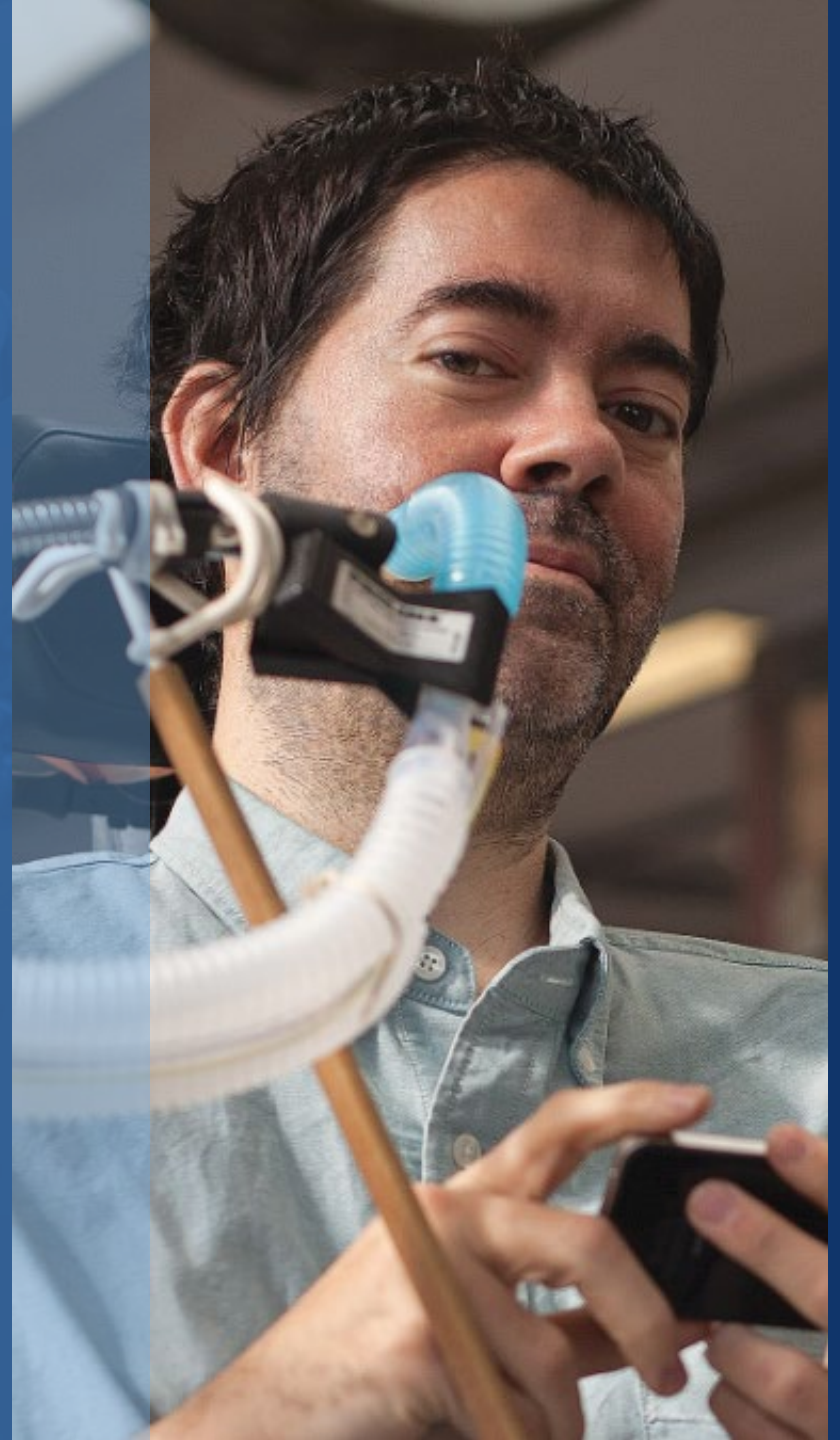
40th Annual J.P. Morgan Healthcare Conference

At the Forefront of Therapies for Rare Diseases

January 12, 2022



Forward-Looking Statements

This presentation contains "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995 relating to preclinical and clinical development of our product candidates, the timing and reporting of results from preclinical studies and clinical trials, the prospects and timing of the potential regulatory approval of our product candidates, commercialization plans, manufacturing and supply plans, financing plans, and the projected revenues and cash position for the Company. The inclusion of forward-looking statements should not be regarded as a representation by us that any of our plans will be achieved. Any or all of the forward-looking statements in this presentation may turn out to be wrong and can be affected by inaccurate assumptions we might make or by known or unknown risks and uncertainties. For example, with respect to statements regarding the goals, progress, timing, and outcomes of discussions with regulatory authorities, and in particular the potential goals, progress, timing, and results of preclinical studies and clinical trials, and revenue goals, including as they are impacted by COVID-19 related disruption, are based on current information. The potential impact on operations and/or revenue from the COVID-19 pandemic is inherently unknown and cannot be predicted with confidence and may cause actual results and performance to differ materially from the statements in this release, including without limitation, because of the impact on general political and economic conditions, including as a result of efforts by governmental authorities to mitigate COVID-19, such as travel bans, shelter in place orders and third-party business closures and resource allocations, manufacturing and supply chain disruptions and limitations on patient access to commercial or clinical product or to treatment sites. In addition to the impact of the COVID-19 pandemic, actual results may differ materially from those set forth in this release due to the risks and uncertainties inherent in our business, including, without limitation: the potential that results of clinical or preclinical studies indicate that the product candidates are unsafe or ineffective; the potential that it may be difficult to enroll patients in our clinical trials; the potential that regulatory authorities, including the FDA, EMA, and PMDA, may not grant or may delay approval for our product candidates; the potential that we may not be successful in commercializing Galafold in Europe, U.K., Japan, the U.S. and other geographies or our other product candidates if and when approved; the potential that preclinical and clinical studies could be delayed because we identify serious side effects or other safety issues; the potential that we may not be able to manufacture or supply sufficient clinical or commercial products; and the potential that we will need additional funding to complete all of our studies, commercialization and manufacturing. Further, the results of earlier preclinical studies and/or clinical trials may not be predictive of future results. With respect to statements regarding corporate financial guidance and financial goals and the attainment of such goals and statements regarding projections of the Company's revenue and cash position, actual results may differ based on market factors and the Company's ability to execute its operational and budget plans. In addition, all forward-looking statements are subject to other risks detailed in our Annual Report on Form 10-K for the year ended December 31, 2020, and on Form 10-Q for the quarter ended September 30, 2021. You are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date hereof. All forward-looking statements are qualified in their entirety by this cautionary statement, and we undertake no obligation to revise or update this news release to reflect events or circumstances after the date hereof.

Non-GAAP Financial Measures

In addition to financial information prepared in accordance with U.S. GAAP, this presentation also contains adjusted financial measures that we believe provide investors and management with supplemental information relating to operating performance and trends that facilitate comparisons between periods and with respect to projected information. These adjusted financial measures are non-GAAP measures and should be considered in addition to, but not as a substitute for, the information prepared in accordance with U.S. GAAP. We typically exclude certain GAAP items that management does not believe affect our basic operations and that do not meet the GAAP definition of unusual or non-recurring items. Other companies may define these measures in different ways. When we provide our expectation for non-GAAP operating expenses on a forward-looking basis, a reconciliation of the differences between the non-GAAP expectation and the corresponding GAAP measure generally is not available without unreasonable effort due to potentially high variability, complexity and low visibility as to the items that would be excluded from the GAAP measure in the relevant future period, such as unusual gains or losses. The variability of the excluded items may have a significant, and potentially unpredictable, impact on our future GAAP results.

Amicus

Definition:
\əˈmēkəs (noun) *Latin* Friend

Our Passion is for Patients

Our Mission:
We seek to deliver the highest quality therapies for people living with rare diseases

Our Vision:
Be a leader in rare disease drug development and commercialization leveraging our expertise in bringing life-changing therapies to patients

A Rare Company

Patient Dedicated, Rare Disease Biotechnology Company with Sustained Double-Digit Revenue Growth, a Global Commercial Infrastructure, and Late-stage Development Capabilities

Galafold® (migalastat)

First Oral Precision Medicine for Fabry Disease

EMPLOYEES in 27 Countries

GLOBAL COMMERCIAL ORGANIZATION

AT-GAA

a Two-Component Therapy under **Regulatory Review** for **Pompe Disease**

Gene Therapy PLATFORM

Protein Engineering & Glycobiology

$557M

Cash

as of 9/30/21

World-Class CLINICAL DEVELOPMENT Capabilities

Robust R&D Engine

Nearly 50+ Lysosomal Disorders and More Prevalent Rare Diseases

Amicus Therapeutics

2021 Strategic Priorities Accomplished:
Setting the Stage for a Successful 2022

1. Achieve double-digit Galafold growth and revenue of $300M to $315M ✓
2. Report data from the AT-GAA Phase 3 PROPEL study and complete BLA and MAA filings for regulatory approvals ✓
3. Advance clinical studies, regulatory discussions, and scientific data across industry leading gene therapy pipeline ✓
4. Further manufacturing capabilities and capacity to build world-class technical operations to support all gene therapy programs ✓
5. Maintain strong financial position ✓

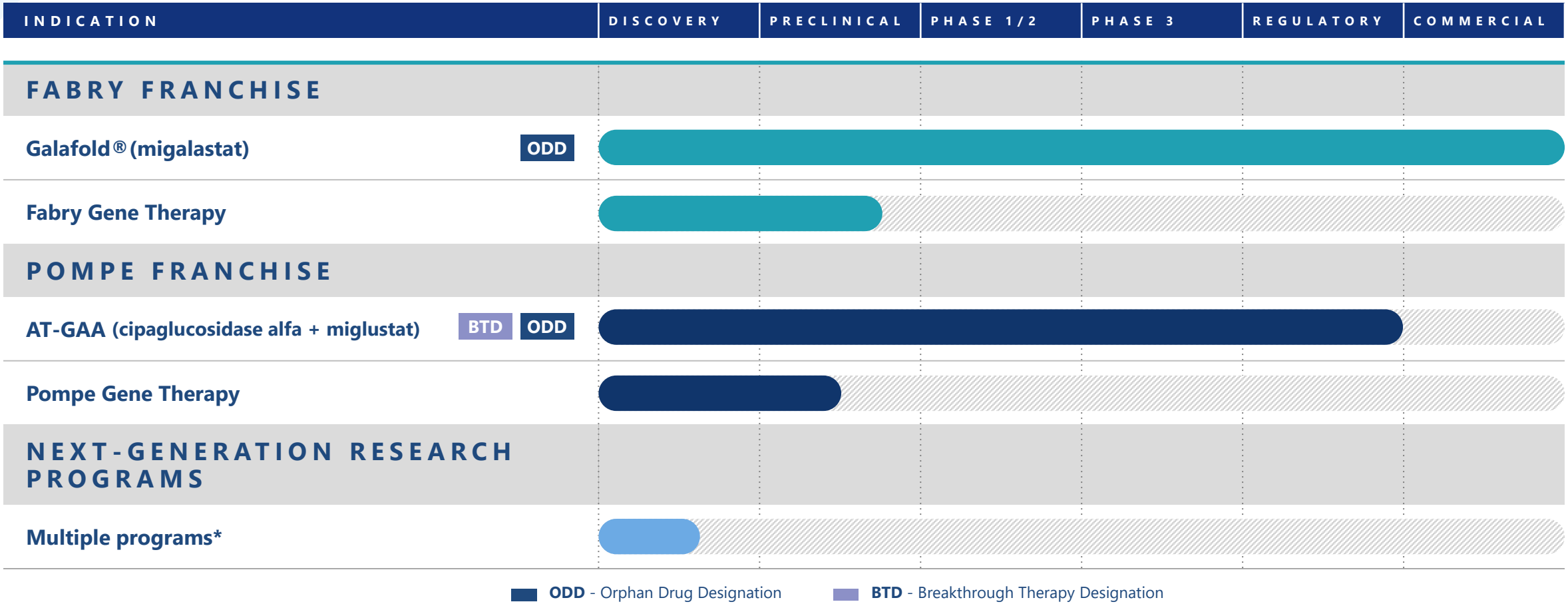
Amicus Therapeutics

2022 Strategic Priorities to Drive Value

1. Continued double-digit Galafold growth (15-20%) with revenue of $350M to $365M
2. Secure FDA approval and positive CHMP opinion for AT-GAA
3. Initiate successful, rapid launch in U.S. for AT-GAA
4. Advance best-in-class next-generation genetic medicines and capabilities
5. Maintain strong financial position on path to profitability

Amicus Pipeline

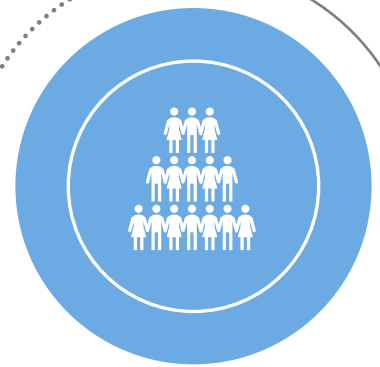
Streamlined Rare Disease Pipeline with Focus on Fabry and Pompe, including Shared Gene Therapy Programs with Caritas, and Optionality to Future Programs



*Includes additional discovery programs and right of first negotiation to certain muscular dystrophy programs that are intended to be developed by Caritas

Positioned for Significant Value Growth

Focused on Execution and Driving Sustainable Double-Digit Revenue Growth on Path to Profitability



Continue to bring Galafold to as many patients as possible, sustain double-digit revenue growth

Successful launch of AT-GAA for people living with Pompe disease

Advance next-generation gene therapies in Fabry and Pompe diseases

Fully leverage global capabilities and infrastructure as a leader in rare diseases

Achieve self-sustainability and profitability in 2023

Amicus Therapeutics

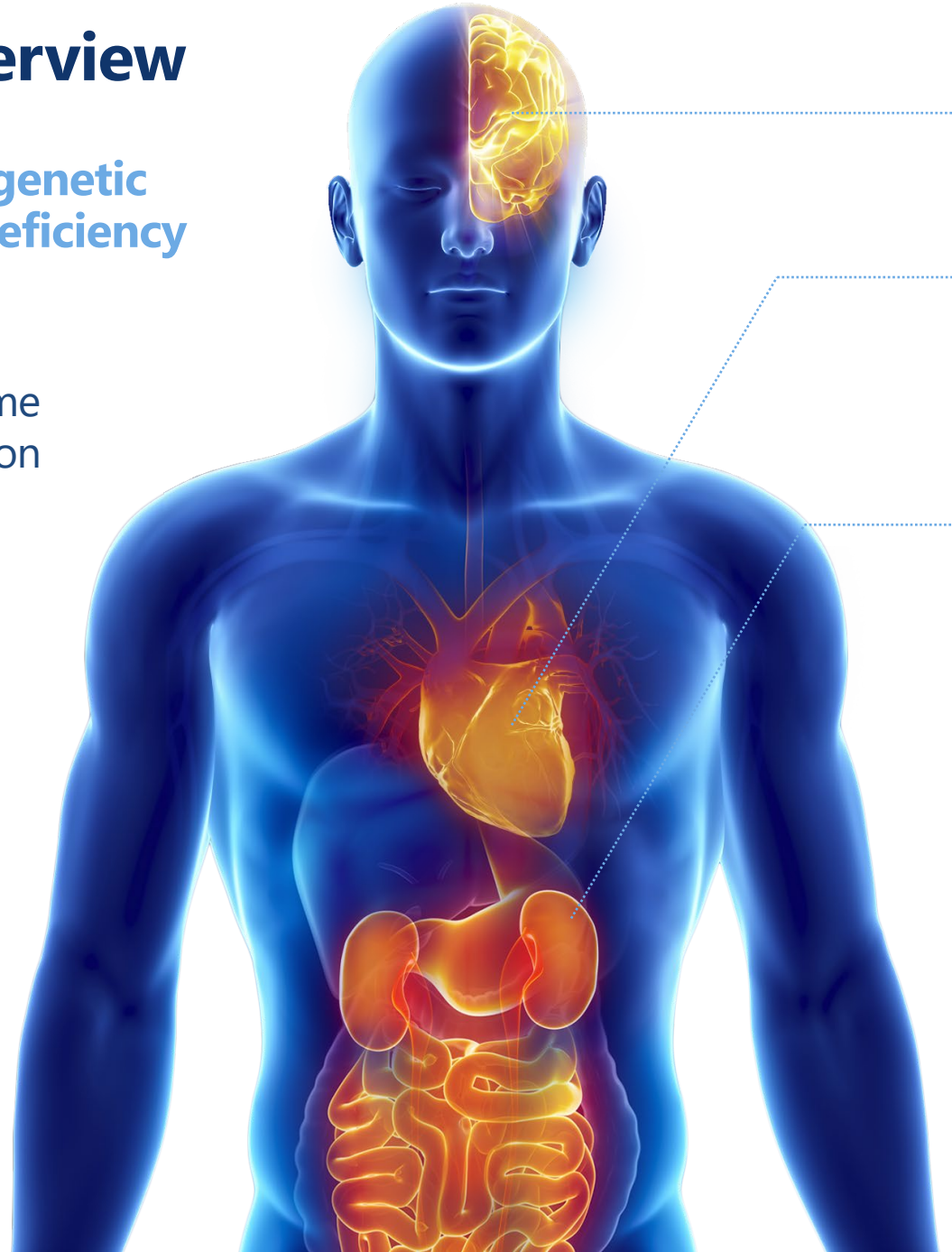
Galafold® (migalastat) Continued Growth…

… building a leadership position in the treatment of Fabry disease

Fabry Disease Overview

Fabry is a rare inherited genetic disorder caused by the deficiency of the GLA enzyme

- Deficiency of α-Gal A enzyme leading to GL-3 accumulation
- 1,000+ known mutations
- 13,000+ diagnosed WW (51% female/49% male[4])



Leading Causes of Death

TRANSIENT ISCHEMIC ATTACK (TIA) & STROKE[1]

HEART DISEASE[2]

- Irregular heartbeat (fast or slow)
- Heart attack or heart failure
- Enlarged heart

KIDNEY DISEASE[3]

- Protein in the urine
- Decreased kidney function
- Kidney failure

Life-Limiting Symptoms

GASTROINTESTINAL[3]

- Nausea, vomiting, cramping, diarrhea
- Pain/bloating after eating, feeling full
- Constipation
- Difficulty managing weight

1. Desnick R, *et al.* Ann Intern Med. 2003
2. Yousef Z, *et al.* Eur Heart J. 2013
3. Germain D. Orphanet J Rare Dis. 2010
4. Fabry Registry 2011

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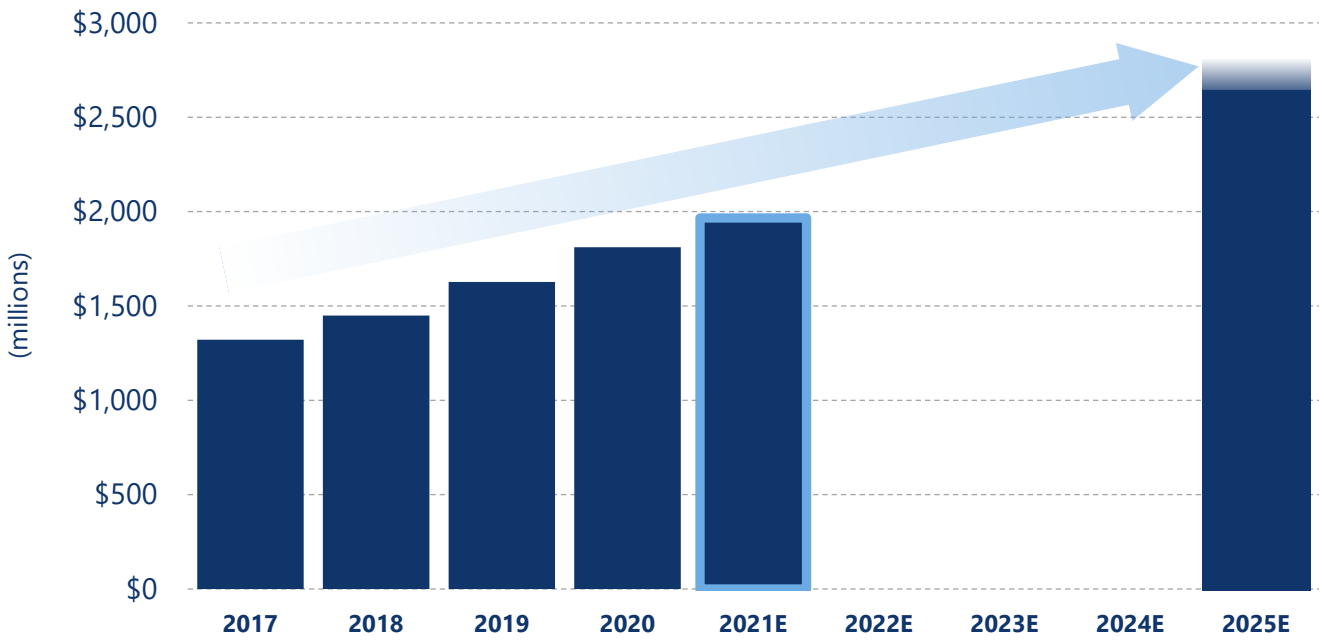
Global Fabry Market

Global Fabry Disease Market Growth Continues to be Driven by Diagnosing New Patients in Addition to the Introduction of Galafold

Global Fabry market to exceed $1.9B in 2021 and tracking toward ~$2.6B by 2025[1]



- Fabry Disease is believed to be significantly underdiagnosed
  - Newborn screening studies suggest Fabry could be one of the more prevalent human genetic diseases (~1:1,000 to ~1:4,000)
- In 2021, Galafold was the fastest growing medicine for Fabry disease and the greatest contributor to Fabry market growth
  - Introduction of Galafold has led to market expansion with 800+ naive patients diagnosed and treated for the first time

[1]Global market measured by reported sales of approved therapies for Fabry disease – 2025 sales projected using 8% CAGR

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2021 Galafold Success

Building on Galafold's Success and Leveraging Leadership Position to Drive Continued Growth

Galafold is first and only approved oral treatment option with a unique mechanism of action for Fabry patients with amenable variants

- **~$306M** 2021 Galafold Revenue[1]
- **1,384** Amenable Mutations Included in EU Label
- **$350M-$365M** FY22 Global Galafold Revenue
- **350** Amenable Variants in U.S. Label
- **Continued Geographic Expansion in 2022**
- **40+** Countries with Regulatory Approvals

Galafold is indicated for adults with a confirmed diagnosis of Fabry Disease and an amenable variant. The most common adverse reactions reported with Galafold (≥10%) were headache, nasopharyngitis, urinary tract infection, nausea and pyrexia. For additional information about Galafold, including the full U.S. Prescribing Information, please visit https://www.amicusrx.com/pi/Galafold.pdf. For further important safety information for Galafold, including posology and method of administration, special warnings, drug interactions and adverse drug reactions, please see the European SmPC for Galafold available from the EMA website at www.ema.europa.eu.

[1]Preliminary and unaudited

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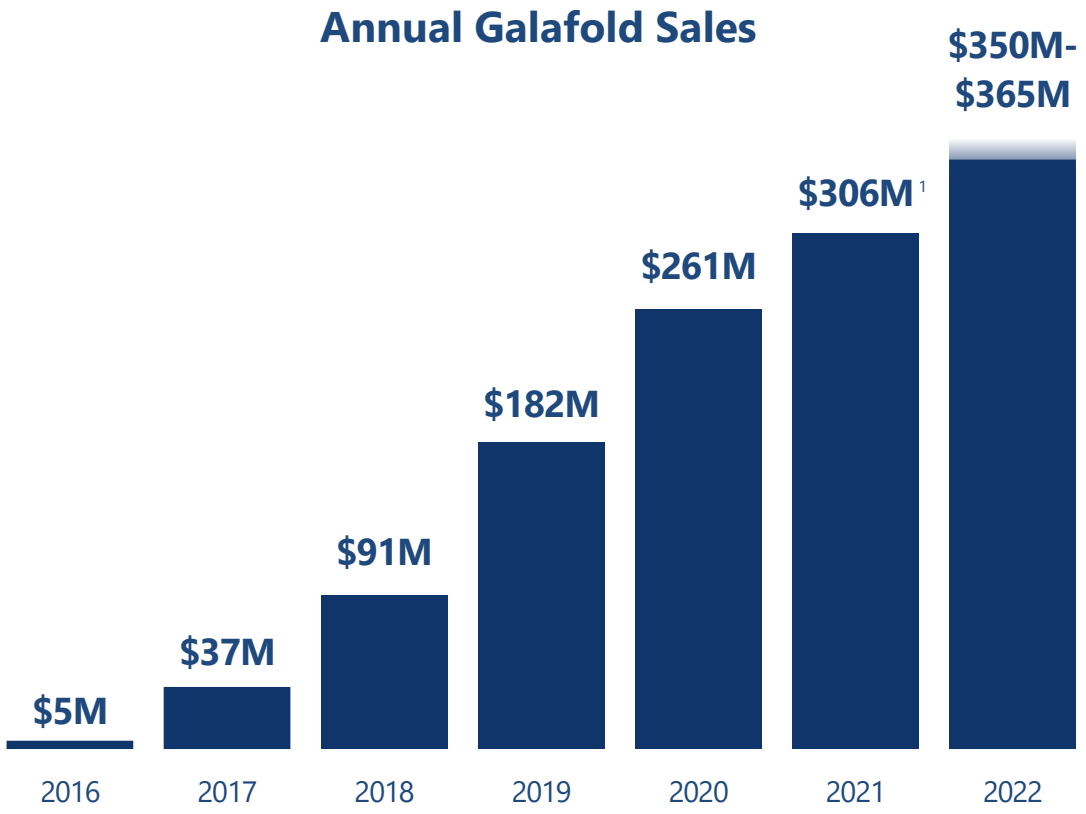
Key Performance Indicators Lay the Groundwork for 2022

FY21 Reflects Continued Galafold Strength with 1,750+ Treated Patients as Rate of Net New Patients Accelerating into 2022

- Hybrid business model (virtual/in-person) surpassed pre-COVID physician interactions
- Achieved estimated 49%+ global share of treated amenable patients
- Multiple new markets opened in 2021
- Global mix of switch (~55%) and previously untreated patients (~45%)
- Compliance and adherence over 90%+
- Continue to support diagnostic initiatives to drive a shorter pathway to diagnosis
- Expect non-linear quarterly growth to continue



[1]Preliminary and unaudited

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Galafold Growth Opportunity

$1B Annual Sales Opportunity at Peak

Sustained double-digit revenue growth:

Grew Galafold sales by +17% in 2021

Near-term growth to $500M driven by:

Continued penetration into existing markets

Expansion into new geographies

Broadening of labels

Long-term growth towards peak sales potential driven by:

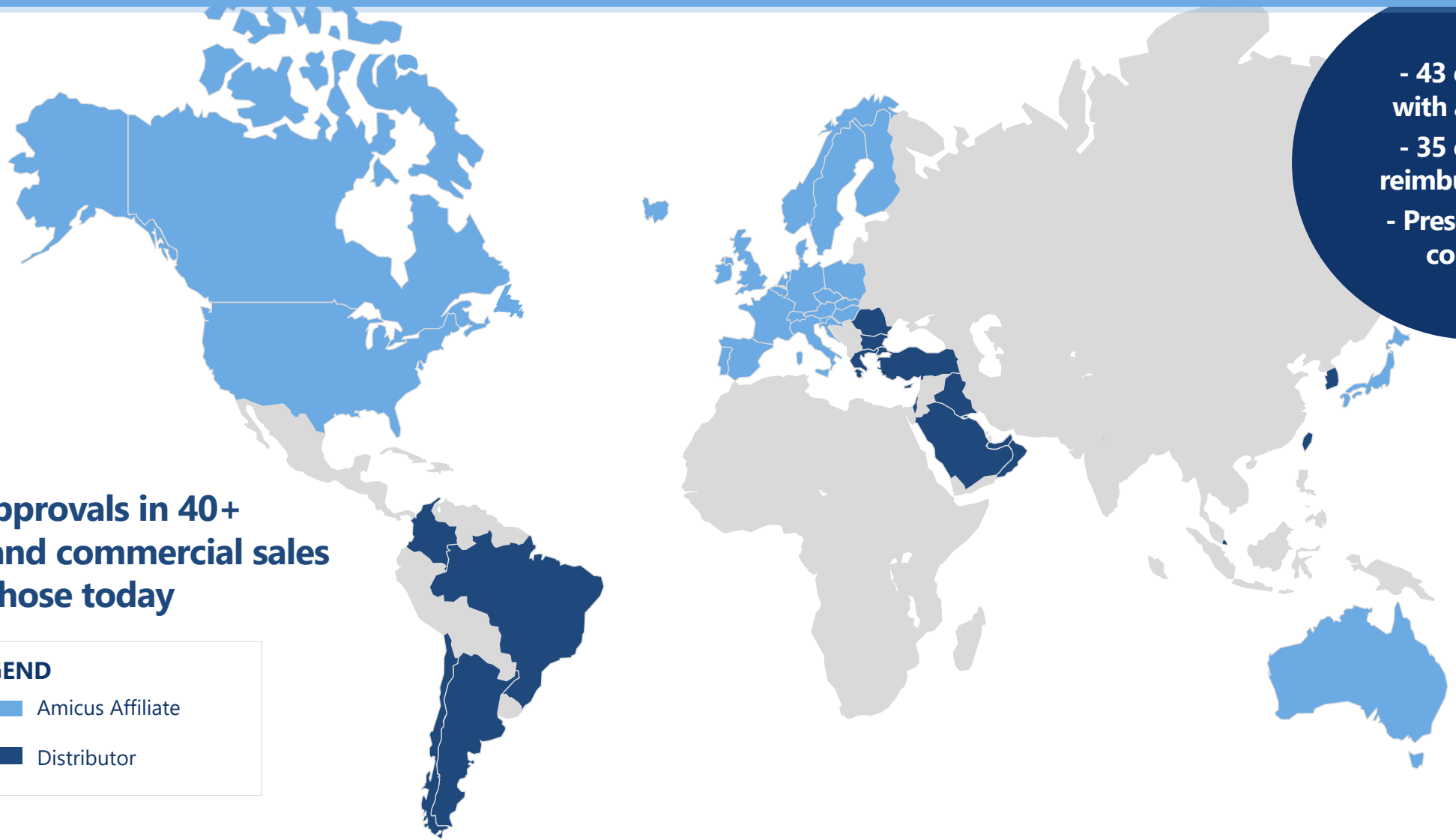
Penetration of diagnosed untreated population

Increase in newborn screening and diagnostic initiatives

Strong intellectual property rights

Experienced Global Commercial Team

Global Commercial Infrastructure Highly Leverageable to Ensure Strong Global Launch of AT-GAA



- 43 countries with approvals
- 35 countries reimbursed sales
- Presence in 43 countries

Galafold approvals in 40+ countries and commercial sales in 30+ of those today

LEGEND

- Amicus Affiliate
- Distributor

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Amicus Therapeutics®

AT-GAA (cipaglucosidase alfa + miglustat)

… potential to establish a new standard of care for people living with Pompe disease

Pompe Disease Overview

Pompe is a Severe and Fatal Neuromuscular Disease Caused by the Deficiency of Lysosomal Enzyme GAA

5,000 – 10,000+ patients diagnosed WW[1]; newborn screening suggests significant underdiagnosis

Age of onset ranges from infancy to adulthood

Majority of patients on current standard of care decline after ~2 years

Respiratory and cardiac failure are leading causes of morbidity and mortality

Deficiency of GAA leading to lysosomal glycogen accumulation and cellular dysfunction

Symptoms include muscle weakness, respiratory failure, and cardiomyopathy

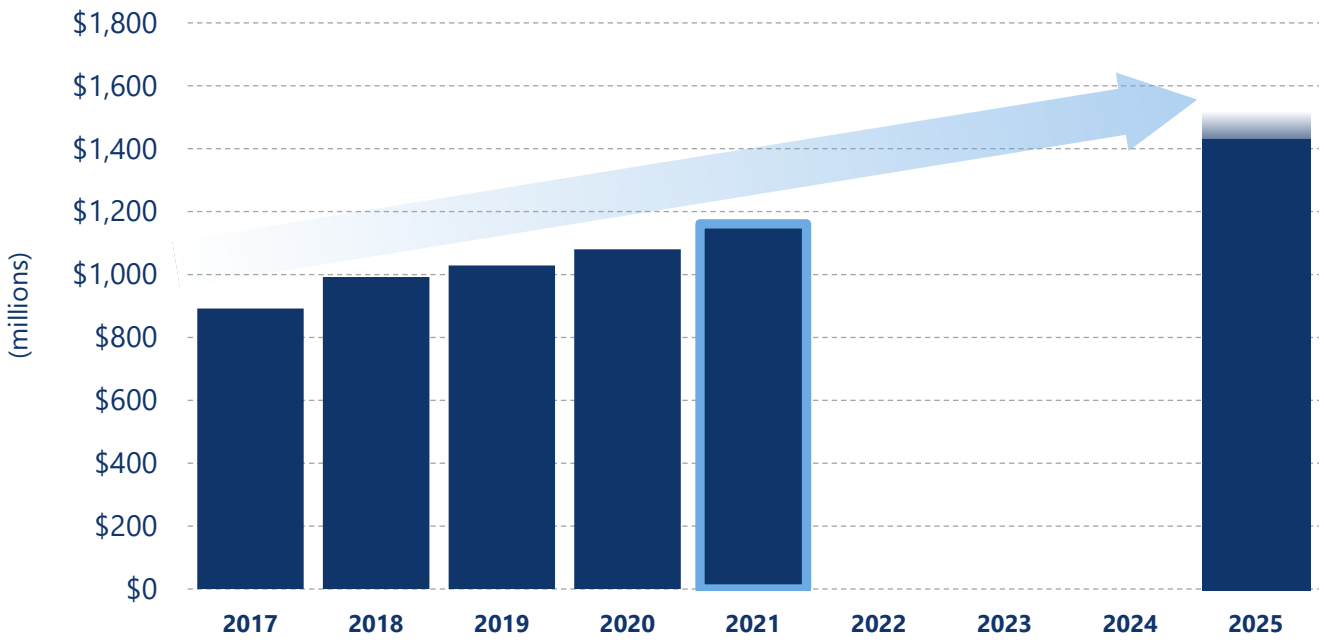
~$1.1B+ global Pompe ERT sales[2]

1. National Institute of Neurological Disorders and Stroke (NIH)
2. Based on 12 months ended September 30, 2021. Source: Sanofi Press Release

Global Pompe Market

Global Pompe Disease Market Growth Continues to be Driven by the Diagnosis of New Patients - Only One Approved Therapy on the Market up until 2021

Global Pompe Market to exceed $1.1B in 2021 and tracking toward $1.5B+ by 2025[1]



- Pompe Disease believed to be significantly underdiagnosed
  - Newborn screening studies suggests Pompe to be more prevalent than medical literature suggest (~1:10,000 to ~1:30,000)
  - Newborn screening already occurring in 27 U.S. states with 9 additional U.S. states pursuing NBS implementation for Pompe disease

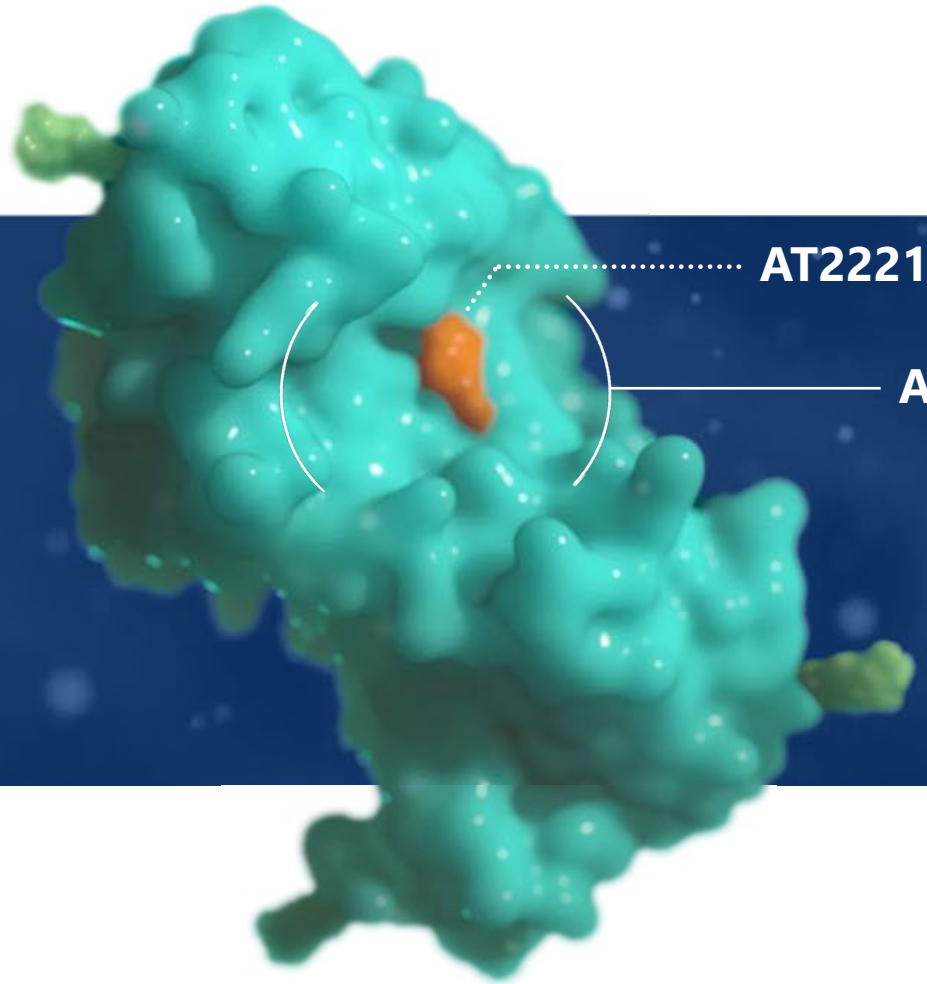
[1]Global market measured by reported sales of approved therapies for Pompe disease – 2025 sales projected using 8% CAGR

Amicus Therapeutics

AT-GAA: An Innovative Approach to Pompe Disease

Our Scientists Created a Uniquely Glycosylated and Highly Phosphorylated ERT (ATB200) that Significantly Enhances Targeting to Key Affected Muscles

- AT-GAA is a two-component therapy combining ATB200, an ERT, with AT2221, an orally administered enzyme stabilizer
- Consists of a naturally occurring cell line that can be properly processed within the lysosome to its mature form which is required to optimally break down glycogen[1]



[1]Selvan et al. 2021, J Biol Chem 2021 Jan-Jun;296:100769
ERT: Enzyme Replacement Therapy

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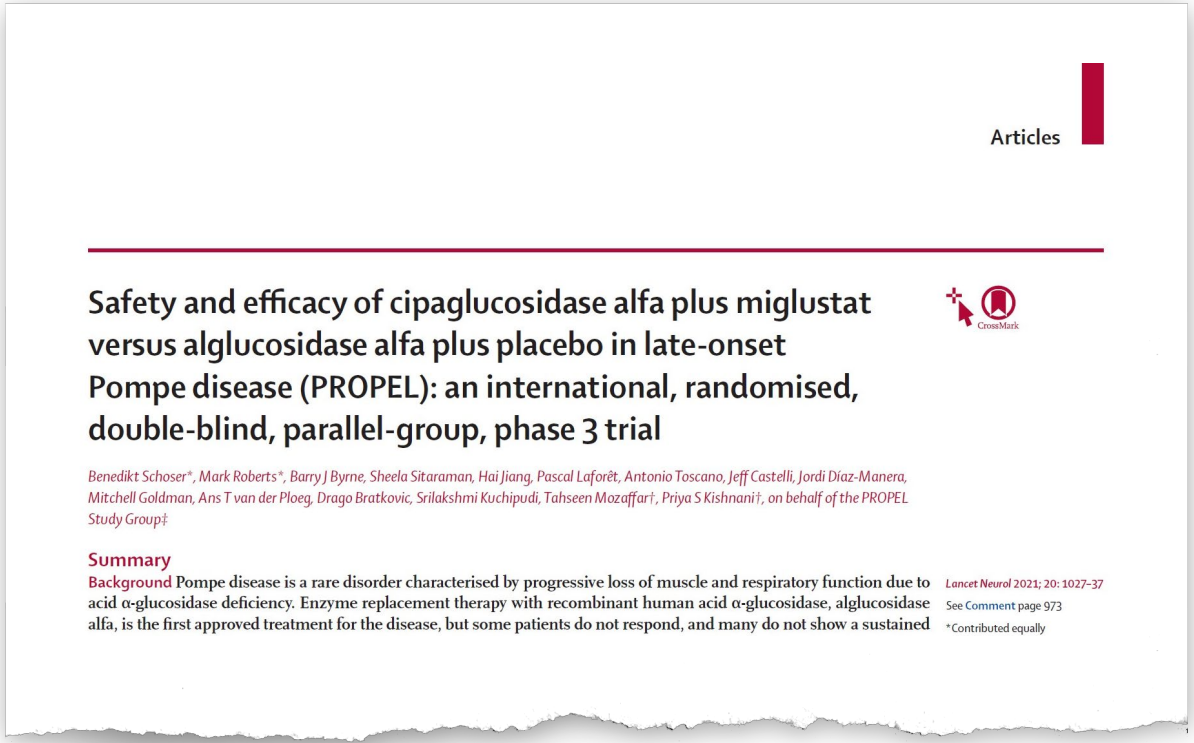
Phase 3 PROPEL Study

Clinically Meaningful Outcomes from Phase 3 PROPEL Study Provide the Basis for Global Regulatory Submissions of AT-GAA



Articles

Safety and efficacy of cipaglucosidase alfa plus miglustat versus alglucosidase alfa plus placebo in late-onset Pompe disease (PROPEL): an international, randomised, double-blind, parallel-group, phase 3 trial

Benedikt Schoser, Mark Roberts*, Barry J Byrne, Sheela Sitaraman, Hai Jiang, Pascal Laforêt, Antonio Toscano, Jeff Castelli, Jordi Díaz-Manera, Mitchell Goldman, Ans T van der Ploeg, Drago Bratkovic, Srilakshmi Kuchipudi, Tahseen Mozaffar†, Priya S Kishnani†, on behalf of the PROPEL Study Group‡*

Summary

Background Pompe disease is a rare disorder characterised by progressive loss of muscle and respiratory function due to acid α-glucosidase deficiency. Enzyme replacement therapy with recombinant human acid α-glucosidase, alglucosidase alfa, is the first approved treatment for the disease, but some patients do not respond, and many do not show a sustained

Lancet Neurol 2021; 20: 1027–37

See Comment page 973

*Contributed equally

- Peer-reviewed results from PROPEL suggest that treatment with AT-GAA provided clinically meaningful improvements over standard of care, including ERT-experienced patients with high unmet need
- The authors deemed AT-GAA to provide a differentiated mechanism of action and potential alternative treatment option for people living with late-onset Pompe Disease

Schoser et al. 2021, The Lancet Neurology, Volume 20, Issue12, P1027-1037

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Phase 3 PROPEL Study Results

Endpoints Across Motor Function, Pulmonary Function, Muscle Strength, PROs, and Biomarkers Favored AT-GAA over Alglucosidase Alfa

	Endpoints	Overall population				ERT-experienced			
		Cipaglucosidase alfa/miglustat n=85		Alglucosidase alfa/placebo n=37		Cipaglucosidase alfa/miglustat n=65		Alglucosidase alfa/placebo n=30	
		Baseline, mean	CFBL at week 52, mean (SE)	Baseline, mean	CFBL at week 52, mean (SE)	Baseline, mean	CFBL at week 52, mean (SE)	Baseline, mean	CFBL at week 52, mean (SE)
Motor function	6MWD, m	357.9	20.8 (4.6)	351.0	7.2 (6.6)	346.9	16.9 (5.0)	334.6	0.0 (7.2)
	GSGC total score	14.5	-0.5 (0.3)	14.5	0.8 (0.3)	15.6	-0.5 (0.3)	15.5	0.6 (0.4)
	10-meter walk, s	9.7	-0.5 (0.6)	9.6	1.9 (1.0)	10.4	-0.6 (0.9)	10.2	2.5 (1.2)
	4-stair climb, s	14.1	-8.5 (7.9)	8.2	0.3 (1.0)	17.3	-11.1 (10.5)	9.3	0.6 (1.2)
	Gower's maneuver, s	10.8	-0.3 (0.7)	19.8	-2.2 (1.4)	11.5	-0.4 (0.8)	23.9	-2.6 (1.9)
	Rising from chair, s	13.6	-10.2 (9.7)	4.5	-0.5 (0.7)	17.6	-13.7 (13.0)	5.2	-0.4 (0.9)
Pulmonary function	FVC, % predicted	70.7	-0.9 (0.7)	69.7	-4.0 (0.8)	67.9	0.1 (0.7)	67.5	-4.0 (0.9)
	MIP, % predicted	61.8	2.1 (2.1)	59.9	-2.7 (2.8)	61.3	1.0 (2.5)	55.0	-1.7 (1.5)
	MEP, % predicted	70.7	0.6 (2.4)	65.1	-1.6 (2.1)	70.7	-2.7 (2.7)	62.2	-3.9 (1.8)
Muscle strength	Lower MMT score	28.0	1.6 (0.4)	27.7	0.9 (0.4)	26.4	1.6 (0.5)	26.1	0.9 (0.5)
	Upper MMT score	34.3	1.5 (0.4)	34.7	0.7 (0.6)	33.7	1.8 (0.4)	34.2	0.4 (0.7)
	Total MMT score	62.3	3.1 (0.7)	62.4	1.4 (0.8)	60.1	3.4 (0.9)	60.3	1.1 (0.9)
PROs	PROMIS®-Physical Function	66.9	1.9 (0.8)	68.0	0.2 (1.8)	64.4	1.8 (0.9)	66.9	-1.0 (2.0)
	PROMIS®-Fatigue	22.3	-2.0 (0.6)	21.1	-1.7 (1.1)	22.0	-1.9 (0.7)	20.4	-0.3 (1.0)
Biomarkers	Urine Hex4, mmol/mol	4.6	-1.9 (0.3)	6.9	1.2 (0.7)	4.6	-1.7 (0.3)	7.2	1.9 (0.8)
	Serum CK, U/L	447.0	-130.5 (25.1)	527.8	60.2 (26.2)	441.8	-118.0 (28.4)	492.3	79.6 (26.9)

Based on LOCF means

Treatment group favored

Nominal statistical significance ($P<0.05$)

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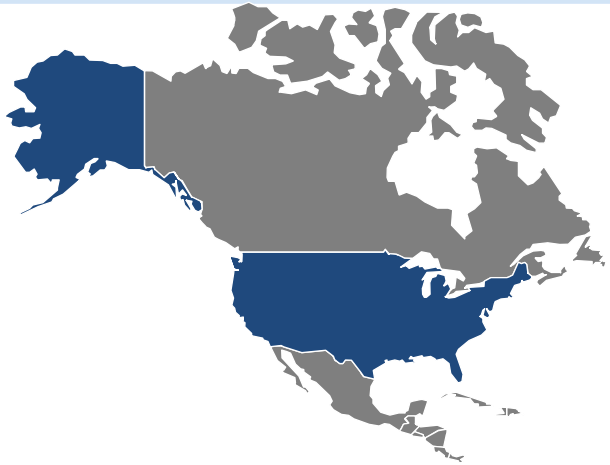
AT-GAA: Key Takeaways

Focused on Advancing AT-GAA to as Many Patients as Possible through Global Regulatory Pathways and Early Access Schemes

- Regulatory status update:
  - U.S. PDUFA date mid 2022[1]
  - CHMP opinion late 2022
  - Planning for additional regulatory submissions
- Multiple early access mechanisms in place, including in the U.K., Germany, Japan, and others
- 150+ people living with Pompe disease are on AT-GAA today across our clinical extension studies and early access programs
- Ongoing supportive studies:
  - Late-Onset Pompe Disease (LOPD) in children and adolescents aged 0 to <18
  - Infantile-Onset Pompe Disease (IOPD)



[1]FDA PDUFA date of May 29, 2022 for miglustat NDA and July 29, 2022 for cipaglucosidase alfa BLA

Amicus Therapeutics

Launch Preparations

Experienced and Passionate Rare Disease Medical and Commercial Organization Poised for Second Successful Launch

Key Strengths

Team	Highly leverageable team in place, few new hires needed	Great experience and passion	Eagerness to introduce a potential new therapy upon approvals
Education	Published Phase 3 PROPEL data in The Lancet Neurology	Active medical conference schedule	Continued education on biology of disease and diagnosis
Access	Commitment to patient access	Multiple Early Access Programs in place	Demonstrating value to payors including parity pricing strategy
Planning	Clear focus on launch	Identification of key Pompe disease centers	Development of educational materials

Amicus Therapeutics

Financial Summary

… maintaining a strong financial outlook

Transforming for the Future

Transforming Amicus into a Premier Development and Commercialization Company and Building Upon our Leadership in Fabry and Pompe Diseases

- We remain a global, patient-dedicated biotechnology company developing and delivering novel high-quality medicines for people living with rare diseases
- Focus will be to grow our leadership position across our two lead indications of Fabry disease and Pompe disease:
  - Continue investing in the global commercialization of Galafold in Fabry disease through continued geographic and label expansion, as well as support for diagnostic initiatives
  - Focus on securing global approvals and executing the anticipated global launch of AT-GAA in Pompe disease
  - Prepare for co-development of gene therapy programs with Caritas in Fabry and Pompe diseases
- Positioning Amicus as a partner of choice for development and commercialization of rare disease therapies

Financial Outlook and Path to Profitability

Clear Strategy to Build our Business, Advance our Portfolio, and Achieve Profitability

Drive Revenue Growth

$306M[1] full-year 2021 revenue

2022 Galafold revenue guidance of **$350M-$365M**

Secure Approvals of AT-GAA

Galafold and AT-GAA expected to drive strong double-digit growth long term

Deliver on Financial Goals

Focused on prudent expense management

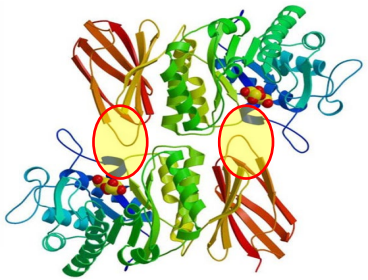
Achieve self-sustainability and profitability in 2023

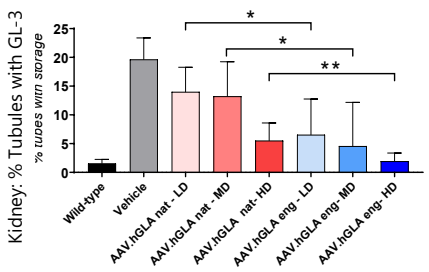
[1]Preliminary and unaudited

Expanding Our Leadership Position in Fabry and Pompe

Differentiated Gene Therapy Approach for Greater Potency and Optimized Cross Correction through Transgene Engineering for Stability and Targeting

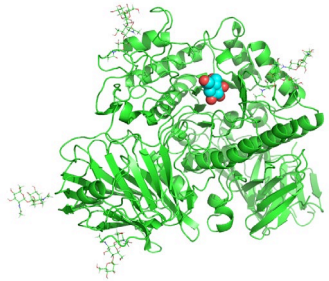
Fabry Gene Therapy

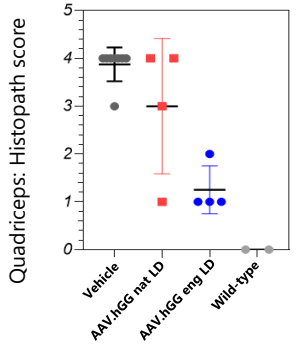




- Proprietary AAV capsid
- Pantropic capsid and ubiquitous promoter
- Engineered hGLA transgene at dimer interface designed for improved stability and optimized cross correction
- Preclinical data demonstrate robust substrate reduction across all Fabry disease relevant tissues, including first evidence of dorsal root ganglia storage reduction
- IND expected in 2023

Pompe Gene Therapy





- Proprietary AAV capsid
- Pantropic capsid and ubiquitous promoter
- Engineered hGAA transgene with cell receptor binding motif designed for improved uptake and optimized cross correction
- Preclinical data demonstrate robust glycogen reduction in all key Pompe disease relevant tissues, including reduction in neurons of central nervous system
- Preclinical and manufacturing work underway

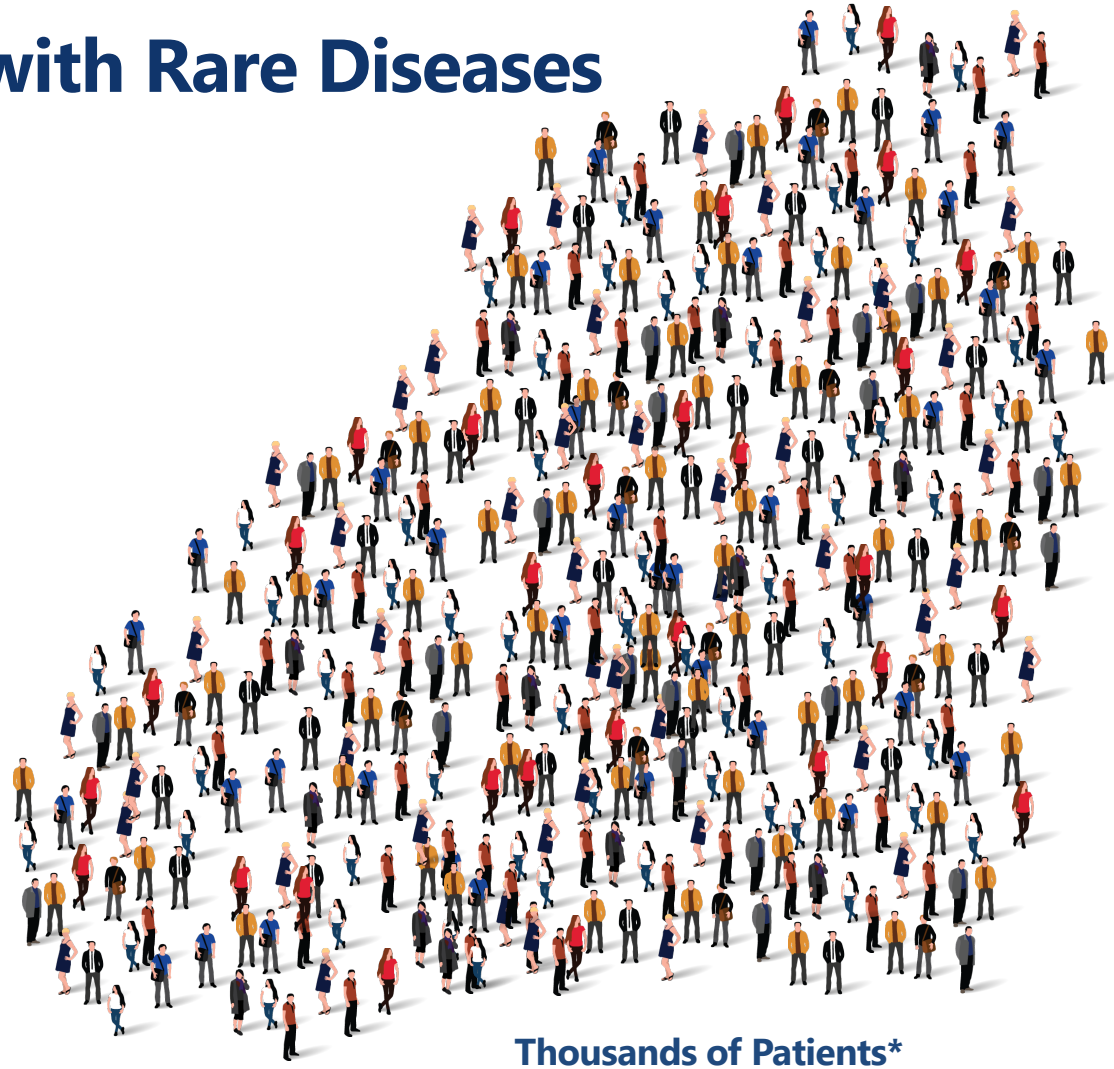
Amicus and Caritas to co-develop the Fabry and Pompe gene therapies

Amicus Therapeutics

True Measure of Success:
Impacting the Lives of Patients Living with Rare Diseases

>350 Patients*

>1,900+ Patients*



Thousands of Patients*

YE17 → YE21 → 2023+

*Clinical & commercial, all figures approximate

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Thank You