

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**

WASHINGTON, D.C. 20549

**FORM 8-K**

**CURRENT REPORT PURSUANT TO  
SECTION 13 OR 15(D) OF THE  
SECURITIES EXCHANGE ACT OF 1934**

Date of Report (Date of earliest event reported): **January 9, 2017**

**AMICUS THERAPEUTICS, INC.**

(Exact Name of Registrant as Specified in Its Charter)

**Delaware**

(State or Other Jurisdiction of  
Incorporation)

**001-33497**

(Commission File Number)

**71-0869350**

(IRS Employer Identification No.)

**1 Cedar Brook Drive, Cranbury, NJ**  
(Address of Principal Executive Offices)

**08512**  
(Zip Code)

Registrant's telephone number, including area code: **(609) 662-2000**

(Former Name or Former Address, if Changed Since Last Report.)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

**Item 2.02. Results of Operations and Financial Condition.**

On January 9, 2017, Amicus Therapeutics, Inc. (the "Company") issued a press release (the "Press Release") regarding its financial condition for the year ended December 31, 2016. A copy of the Press Release is furnished as Exhibit 99.1 to this Current Report on Form 8-K and is incorporated herein by reference.

**Item 7.01. Regulation FD Disclosure**

*Press Release*

The Press Release also includes information regarding the Company's 2016 accomplishments and its strategic outlook and financial guidance for the year ending December 31, 2017.

A copy of the Press Release is furnished as Exhibit 99.1 to this Current Report on Form 8-K and is incorporated herein by reference.

*Corporate Presentation*

The Company has updated its corporate presentation as of January 9, 2017. The slides from this presentation are attached hereto as Exhibit 99.2. The attached materials will be posted on the Company's website at [www.amicusrx.com](http://www.amicusrx.com). The Company does not undertake to update this presentation.

**Item 9.01. Financial Statements and Exhibits.**

(d) Exhibits:

Exhibit No.	Description
99.1	Press Release dated January 9, 2017
99.2	Corporate Presentation

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**SIGNATURES**

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Amicus Therapeutics, Inc.

Date: January 9, 2017

By: /s/ ELLEN S. ROSENBERG  
Ellen S. Rosenberg  
General Counsel and Corporate Secretary

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**EXHIBIT INDEX**

<u>Exhibit No.</u>	<u>Description</u>
99.1	Press Release dated January 9, 2017
99.2	Corporate Presentation

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## Amicus Therapeutics Provides Full-Year 2017 Strategic Outlook and Financial Guidance

### *Strong Momentum for Galafold Launch in Europe and Multiple Global Regulatory Submissions Ahead*

#### *Additional Data from Pompe Phase 1/2 Clinical Study and Top-Line Data from Phase 3 Epidermolysis Bullosa Study Expected in 2017*

#### *\$331M Cash Balance with Runway into 2H18*

**CRANBURY, NJ, January 9, 2017** — Amicus Therapeutics (Nasdaq: FOLD), a global biotechnology company at the forefront of therapies for rare and orphan diseases, today provided its full-year 2017 strategic outlook and financial guidance.

“In 2016 we made significant progress in our transformation to a global commercial-stage biotech company while we continued to advance and expand our tremendous pipeline of first- and/or best-in-class medicines for people living with devastating rare diseases,” stated John F. Crowley, Chairman and Chief Executive Officer of Amicus Therapeutics, Inc. “We begin 2017 in an excellent position to develop and deliver great medicines for patients and to create significant shareholder value. For this year, we are laser focused on five key strategic priorities: 1) advancing the international Galafold launch, 2) completing our regulatory submission for migalastat in Japan, 3) establishing our novel Pompe treatment paradigm ATB200/AT2221 as a highly differentiated therapy, 4) successfully completing our Phase 3 clinical study in patients with epidermolysis bullosa, and 5) maintaining our financing strength. With one commercial-stage medicine and two medicines in mid- and late-stage clinical development, as well as a biologics platform for future growth, our vision is to become a leading global biotechnology company focused on delivering meaningful benefits for patients with devastating rare diseases.”

#### **Key 2016 Accomplishments**

- **Galafold™ (migalastat) full approval in European Union (EU)** — first precision medicine and first oral treatment for Fabry disease received a broad label for patients 16 years and older with a confirmed diagnosis of Fabry disease and who have an amenable genetic mutation (estimated 35%-50% of the global Fabry population)
- **Galafold international launch success** — initial launch exceeding expectations with 61 patients on reimbursed Galafold (commercial or expanded access programs, or EAPs) as of December 31, 2016
- **ATB200/AT2221 positive preliminary data from Pompe clinical study** — compelling data on safety and pharmacokinetic (PK) profile in addition to biomarkers of muscle damage set important foundation for differentiating ATB200/AT2221 from any other approach
- **Enrollment near complete in Phase 3 epidermolysis bullosa (EB) Study** — significant momentum with sites now active in the U.S., Europe, and Australia
- **Balance sheet strengthened** - cash, cash equivalents, and marketable securities totaled \$331 million at December 31, 2016

Mr. Crowley will discuss Amicus’ corporate objectives and key milestones in a presentation at the 35th Annual J.P. Morgan Healthcare Conference on Tuesday, January 10, 2017 at 8:30 a.m. PT (11:30 a.m. ET). A live webcast of the presentation can be accessed through the Investors section of the Amicus Therapeutics corporate web site at <http://ir.amicusrx.com/events.cfm>, and will be archived for 90 days.

#### **2017 Financial Guidance**

Cash, cash equivalents, and marketable securities totaled \$331 million at December 31, 2016. As previously announced, the Company strengthened the balance sheet during 2016 with a \$100 million at-the-market (ATM) equity financing as well as a \$250 million convertible debt offering. The Company expects full-year 2017 net operating cash flow of between \$175 million to \$200 million and expects full-year 2017 total net cash spend (including third-party milestone payments and capital expenditures) of between \$200 million and \$225 million.

#### **Program Highlights**

##### **Migalastat for Fabry Disease**

Migalastat is an oral precision medicine intended to treat Fabry disease in patients who have amenable genetic mutations. As previously announced, the European Commission (EC) has granted full approval for migalastat under the trade name Galafold. The EC approval may serve as the basis for regulatory approvals in more than two-thirds of the global Fabry market that is outside the U.S. The Company has also defined a U.S. pathway to support full approval.

International Launch and Expanded Access Programs (EAP) Updates:

- 61 patients (naïve and ERT-switch) on reimbursed Galafold as of December 31, 2016
- Six countries with reimbursement (commercial or EAP)
- Reimbursement dossiers submitted and pricing discussions are now underway in 18 countries
- National Institute for Health and Care Excellence (NICE) issued a final positive recommendation for reimbursement of Galafold in England
- Target of 300 patients treated with reimbursed Galafold by year-end 2017

Regulatory Updates:

- One additional approval secured outside EU (Switzerland)
- Regulatory submissions completed in six additional territories outside EU

- U.S. regulatory pathway defined by Amicus to support full approval

#### Anticipated Upcoming Fabry Disease Program Milestones:

- EU commercial launch in additional countries and EAP in additional territories
- Additional regulatory submissions including a Japanese regulatory submission (J-NDA) targeted for 1H17
- U.S. intermediate EAP
- Fabry ERT cell line development and program update
- Pivotal gastrointestinal (GI) symptoms study initiation

#### **ATB200/AT2221 for Pompe Disease**

ATB200/AT2221 is a novel treatment paradigm that consists of ATB200, a unique recombinant human acid alpha-glucosidase (rhGAA) enzyme with optimized carbohydrate structures, particularly mannose-6 phosphate (M6P), to enhance uptake, co-administered with AT2221, a pharmacological chaperone. Positive preliminary data were reported in the fourth quarter of 2016 from a global clinical study (ATB200-02) to evaluate safety, tolerability, PK, and pharmacodynamics (PD) of ATB200/AT2221. The study is enrolling 3 cohorts of patients, including ambulatory ERT-switch patients (Cohort 1), non-ambulatory ERT-switch patients (Cohort 2), and ERT-naïve patients (Cohort 3).

#### Key Preliminary Data Highlights from ATB200-02 Study in Initial ERT-Switch Patients:

- No infusion-associated reactions following 100+ infusions in nine initial ERT-switch patients treated for a maximum of 24 weeks
- Available PK and PD (muscle biomarker) data through week 14 in four initial ERT-switch patients showed the desired PK profile and improvements in key muscle damage biomarkers in two of four patients

#### Anticipated Upcoming Pompe Disease Program Milestones:

- Additional ATB200-02 study clinical data as well as new preclinical findings to be presented at the 13<sup>th</sup> Annual *WORLD Symposium* in San Diego, CA from February 13-17, 2017
- ATB200-02 study data in naïve and non-ambulatory patients, as well as extension-phase data on all patient cohorts
- Meetings with US and EU regulators

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#### **SD-101 for Epidermolysis Bullosa (EB)**

SD-101 is a novel, late-stage, proprietary topical treatment and potential first-to-market therapy for EB. SD-101 is currently being investigated in a registration-directed Phase 3 study (ESSENCE, also known as SD-005) to support global regulatory submissions.

SD-101 was granted FDA Breakthrough Therapy designation in 2013 based on results from a Phase 2a study for the treatment of lesions in patients suffering with EB. SD-101 is the first-ever treatment in clinical studies to show improvements in wound closure across all major EB types.

#### EB Phase 3 ESSENCE Study Highlights:

- Significant momentum enrolling patients diagnosed with Simplex, Recessive Dystrophic, or Junctional non-Herlitz EB
- More than 95% of patients completing the primary treatment period have elected to continue in the open-label extension study

#### Anticipated EB Program Milestones:

- Top-line Phase 3 data anticipated mid-2017

#### **Important Safety Information**

Treatment with GALAFOLD should be initiated and supervised by specialists experienced in the diagnosis and treatment of Fabry disease. GALAFOLD is not recommended for use in patients with a nonamenable mutation.

- GALAFOLD is not intended for concomitant use with enzyme replacement therapy.
- GALAFOLD is not recommended for use in patients with Fabry disease who have severe renal impairment (<30 mL/min/1.73 m<sup>2</sup>). The safety and efficacy of GALAFOLD in children 0–15 years of age have not yet been established.
- No dosage adjustments are required in patients with hepatic impairment or in the elderly population.
- There is very limited experience with the use of this medicine in pregnant women. If you are pregnant, think you may be pregnant, or are planning to have a baby, do not take this medicine until you have checked with your doctor, pharmacist, or nurse.
- While taking GALAFOLD, effective birth control should be used. It is not known whether GALAFOLD is excreted in human milk.
- Contraindications to GALAFOLD include hypersensitivity to the active substance or to any of the excipients listed in the PRESCRIBING INFORMATION.
- It is advised to periodically monitor renal function, echocardiographic parameters and biochemical markers (every 6 months) in patients initiated on GALAFOLD or switched to GALAFOLD.
- OVERDOSE: General medical care is recommended in the case of GALAFOLD overdose.

- The most common adverse reaction reported was headache, which was experienced by approximately 10% of patients who received GALAFOLD. For a complete list of adverse reactions, please review the SUMMARY OF PRODUCT CHARACTERISTICS.
- Call your doctor for medical advice about side effects.

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](http://www.ema.europa.eu).

### **About Amicus Therapeutics**

Amicus Therapeutics (Nasdaq: FOLD) is a biotechnology company at the forefront of therapies for rare and orphan diseases. The Company has a robust pipeline of advanced therapies for a broad range of human genetic diseases. Amicus' lead programs in development include the small molecule pharmacological chaperone migalastat as a monotherapy for Fabry disease, SD-101 for Epidermolysis Bullosa (EB), as well as novel enzyme replacement therapy (ERT) and biologic products for Fabry disease, Pompe disease, and other rare and devastating diseases.

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### **Forward-Looking Statements**

This press release 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, financing plans, and the projected cash position for the Company. In particular, this press release relates to the preliminary data from a global Phase 1/2 study (ATB200-02) to investigate ATB200/AT2221. The inclusion of forward-looking statements arising from this preliminary data and study 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 press release 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, 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 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; and the potential that we will need additional funding to complete all of our studies. Further, the results of earlier preclinical studies and/or clinical trials may not be predictive of future results. The preliminary data and Phase 1/2 study discussed herein is inherently preliminary and early in the study, derived from a limited patient set, and later trial results with this patient set or others may not be consistent with these preliminary results. With respect to statements regarding projections of the Company's 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, 2015 and Quarterly Report on Form 10-Q for the quarter ended September 30, 2016. 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.

### **CONTACTS:**

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# 35<sup>th</sup> Annual J.P. Morgan Healthcare Conference

**John F. Crowley, Chairman and Chief Executive Officer**  
**January 10, 2017**

## Safe Harbor

*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, financing plans, and the projected cash position for the Company. In particular, this presentation relates to the preliminary data from a global Phase 1/2 study (ATB200-02) to investigate ATB200/AT2221. The inclusion of forward-looking statements arising from this preliminary data and study 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, 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 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; and the potential that we will need additional funding to complete all of our studies. Further, the results of earlier preclinical studies and/or clinical trials may not be predictive of future results. The preliminary data and Phase 1/2 study discussed herein is inherently preliminary and early in the study, derived from a limited patient set, and later trial results with this patient set or others may not be consistent with these preliminary results. With respect to statements regarding projections of our cash position, actual results may differ based on market factors and our ability to execute 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, 2015 and Quarterly Report on Form 10-Q for the quarter ended September 30, 2016. 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 presentation to reflect events or circumstances after the date hereof.*

# Building a Top Global Biotech in Devastating Rare Diseases



FIRST ORAL PRECISION MEDICINE FOR FABRY DISEASE

**3**  
**PROGRAMS**  
IN CLINIC IN 3 RARE DISEASES

**1**  
**BREAKTHROUGH**  
THERAPY DESIGNATION

WORLD CLASS  
SCIENCE &  
DRUG  
DEVELOPMENT

**ATB200/AT2221**  
NOVEL TREATMENT PARADIGM  
FOR POMPE IN PHASE 1/2

TREATING  
PATIENTS IN  
24 COUNTRIES

**Two Phase 3**  
**PROGRAMS**  
(FABRY & EB)

**\$3B+** MARKET  
OPPORTUNITY FOR  
CURRENT PIPELINE

PROTEIN  
ENGINEERING &  
GLYCOBIOLOGY

**\$331M CASH**  
**BALANCE**



## Key Accomplishments in 2016

### 2016

#### Fabry Disease (Galafold™)

- EU approval
- International launch success
- Regulatory progress

#### Pompe Disease (ATB200/AT2221)

- Positive preliminary data in Phase 1/2 study in Pompe patients

#### Epidermolysis Bullosa (EB) (SD-101)

- Phase 3 enrollment near complete

#### Strong Balance Sheet

- \$331M in cash (12/31/16)

## 2017 Key Strategic Priorities

We Remain Sharply Focused on FIVE Key Strategic Priorities as We Continue to Build a Top Global Biotechnology Company Focused on Rare Devastating Diseases

**Advance International Galafold Launch**

**Submit Japanese New Drug Application (J-NDA) for Migalastat**


**Establish Definitive Proof of Concept for ATB200/AT2221 with Clear Path to Registration for Pompe Disease**

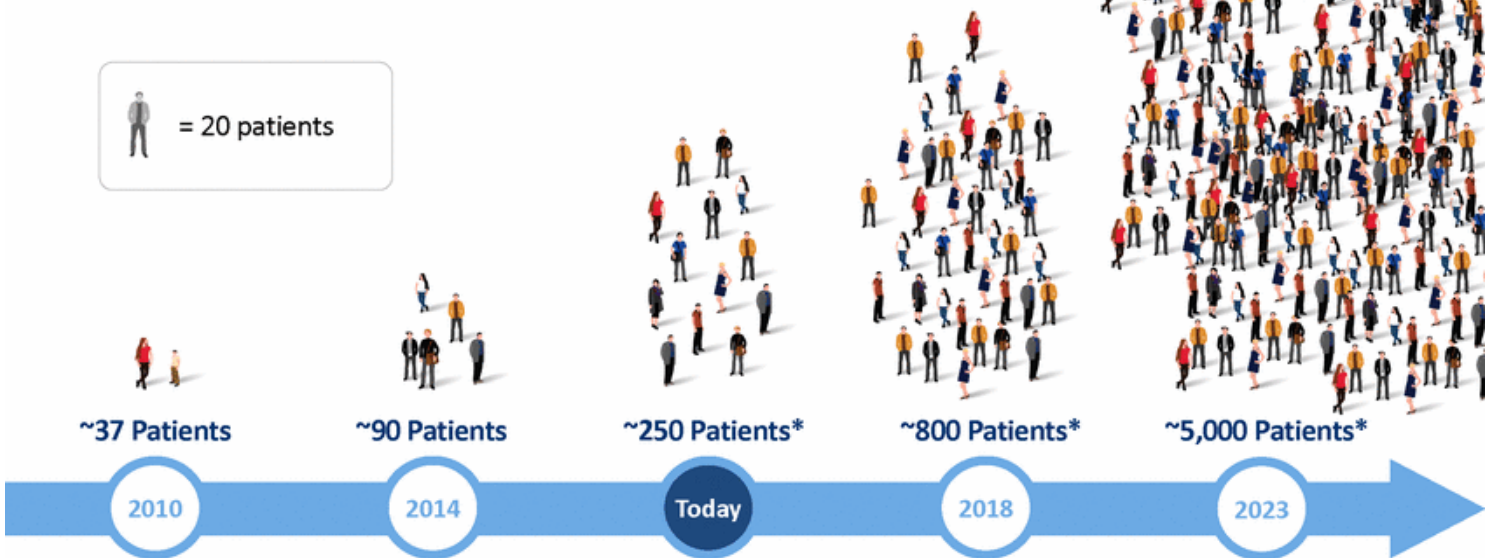
**Successfully Complete Phase 3 EB Study**

**Maintain Financial Strength**

# Our Vision – Maximizing Impact on Patients to Drive Shareholder Value

**The Ultimate Measure of Our Success Will be the Number of Patients with Devastating Rare Diseases Treated with an Amicus Product**

 = 20 patients



\*Clinical & Commercial



# Galafold™ (Migalastat) Precision Medicine for Fabry Disease

Continue Launch Execution and Geographic Expansion

# Fabry Disease Overview

Fabry Disease is a Fatal Genetic Disorder that Affects Multiple Organ Systems

## Leading Causes of Death

### TRANSIENT ISCHEMIC ATTACK (TIA) & STROKE<sup>1</sup>

### HEART DISEASE<sup>2</sup>

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

### KIDNEY DISEASE<sup>3</sup>

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

## Life-Limiting Symptoms

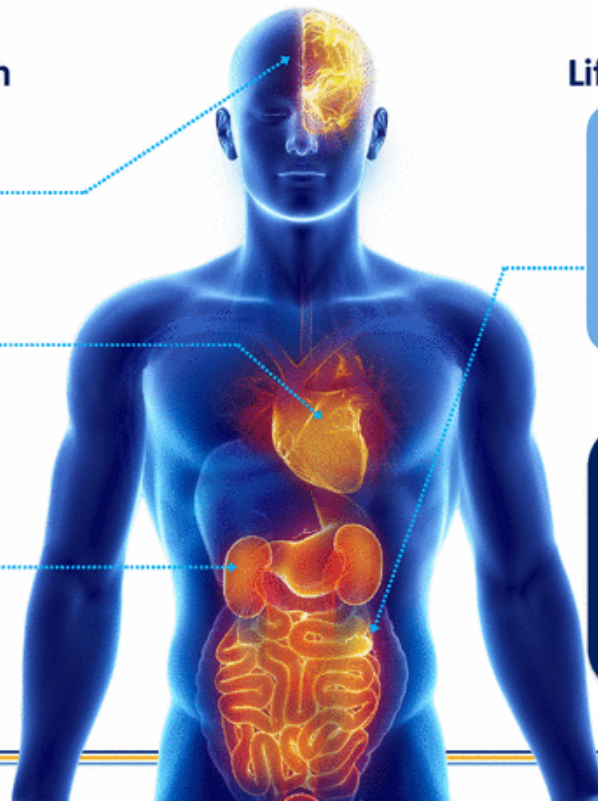
### GASTROINTESTINAL<sup>3</sup>

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

## Key Facts

- Deficiency of  $\alpha$ -Gal A enzyme leading to GL-3 accumulation
- >900 known mutations
- 5-10K diagnosed WW (51% female/49% male<sup>4</sup>)
- Newborn screening studies suggest prevalence of ~1:1000 to ~1:4000

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



# Precision Medicine Driven by a Patient's Genotype

Amicus Therapeutics is Committed to Innovative R&D to Develop the Highest Quality Therapies for ALL Fabry Patients

*Future Vision*  
Novel ERT co-formulated with migalastat

*Today*  
**Migalastat**  
Oral precision medicine



**~\$1.2B**  
Global Fabry market today

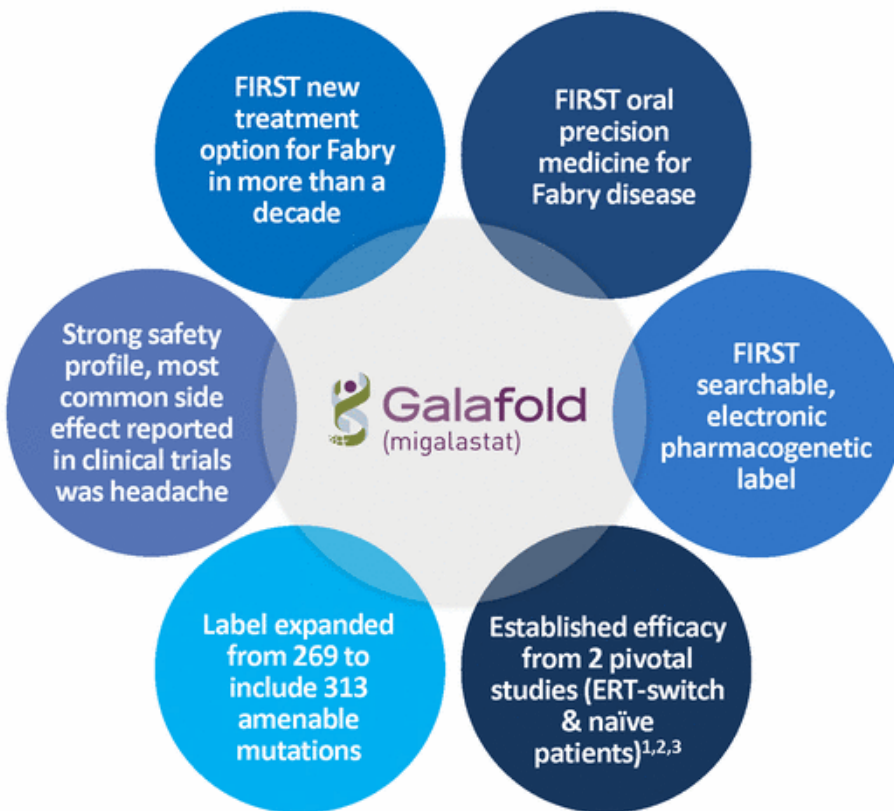


Growing to  
**~\$2B**  
Global Fabry market



\*Artist rendering, not actual product image

# Full EU Approval as First Oral Precision Medicine for Fabry Disease



Galafold Indicated for Long-Term Treatment of Adults and Adolescents Aged  $\geq 16$  years with a Confirmed Diagnosis of Fabry Disease and Who have an Amenable Mutation<sup>3</sup>

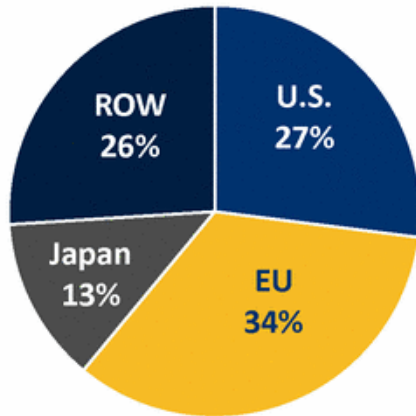
- Approved May 30, 2016
- Launch exceeding expectations

1. Germain, DP et al., New England Journal of Medicine. 2. Hughes, et al., Journal of Medical Genetics. 3. For important safety information for Galafold visit [www.ema.europa.eu](http://www.ema.europa.eu).

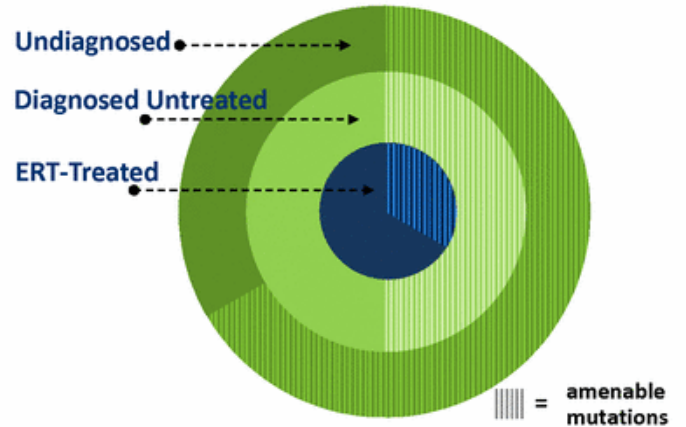
# Galafold Commercial Opportunity

Prioritizing EU, Japan, and Other Large Fabry Markets to Address Patients with Amenable Mutations (35%-50% of Fabry Population)

## Geographic Segments



## Patient Segments



- 5k-10k Patients Diagnosed WW
- 40%-50% of Diagnosed Patients not on ERT
- Newborn Screening Studies Suggest Prevalence of ~1:1000 to ~1:4000<sup>2</sup>

1. Company filings and Amicus estimates 2. Burton, LDN WORLD Symposium, 2012 Feb. Mechtler et al., The Lancet, 2011 Dec. Hwu et al., Hum Mutation, 2009 Jun. Spada et al., Am J Human Genet., 2006 Jul



## Early Success with International Launch (as of 12/31/16)

**Initial Launch Success Driven by Germany with ERT-Switch & Naïve Patients,  
Reimbursement Now Available in 6 Countries\***

61

Patients (Switch & Naïve) on  
reimbursed Galafold (12/31/16)

6

Countries with available reimbursement\*

18

Countries with pricing discussions ongoing

22

Countries with Amicus footprint



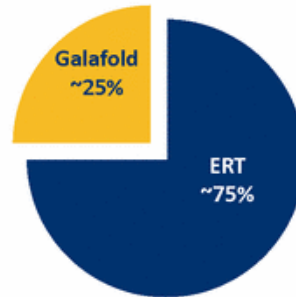
\*Commercial and Expanded Access Programs (EAPs)

# German Launch Update (as of 12/31/16)

## Germany is an Important Indicator for EU Launch Success



Current  
Approximate  
Market Share\*



### IMPORTANT EARLY INDICATORS IN GERMANY

- Vast majority switch patients
- ~25% of eligible switch patients now on Galafold\*
- All newly experienced patients & physicians
- Majority of switches from Replagal™
- Male / female mix
- 13 unique prescribers

\*Market share assumptions based on estimated number of ERT-treated patients with amenable mutations in Germany as of May 2016

# EU Launch Strategy

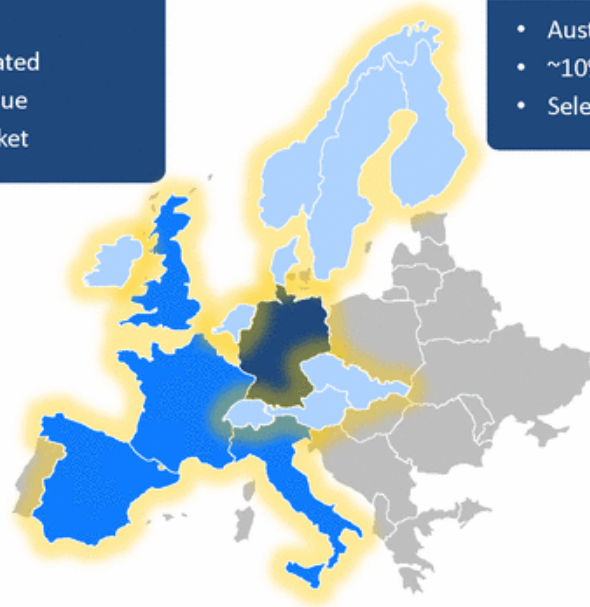
## Focus on EU Top 5 Plus Key Mid-Sized EU Markets in 2017

### INITIAL FOCUS ON TOP 5 COUNTRIES

- Germany
- France, Italy, Spain, UK
- ~2,000 Fabry patients treated
- ~70-75% of EU market value
- ~25% of global Fabry market

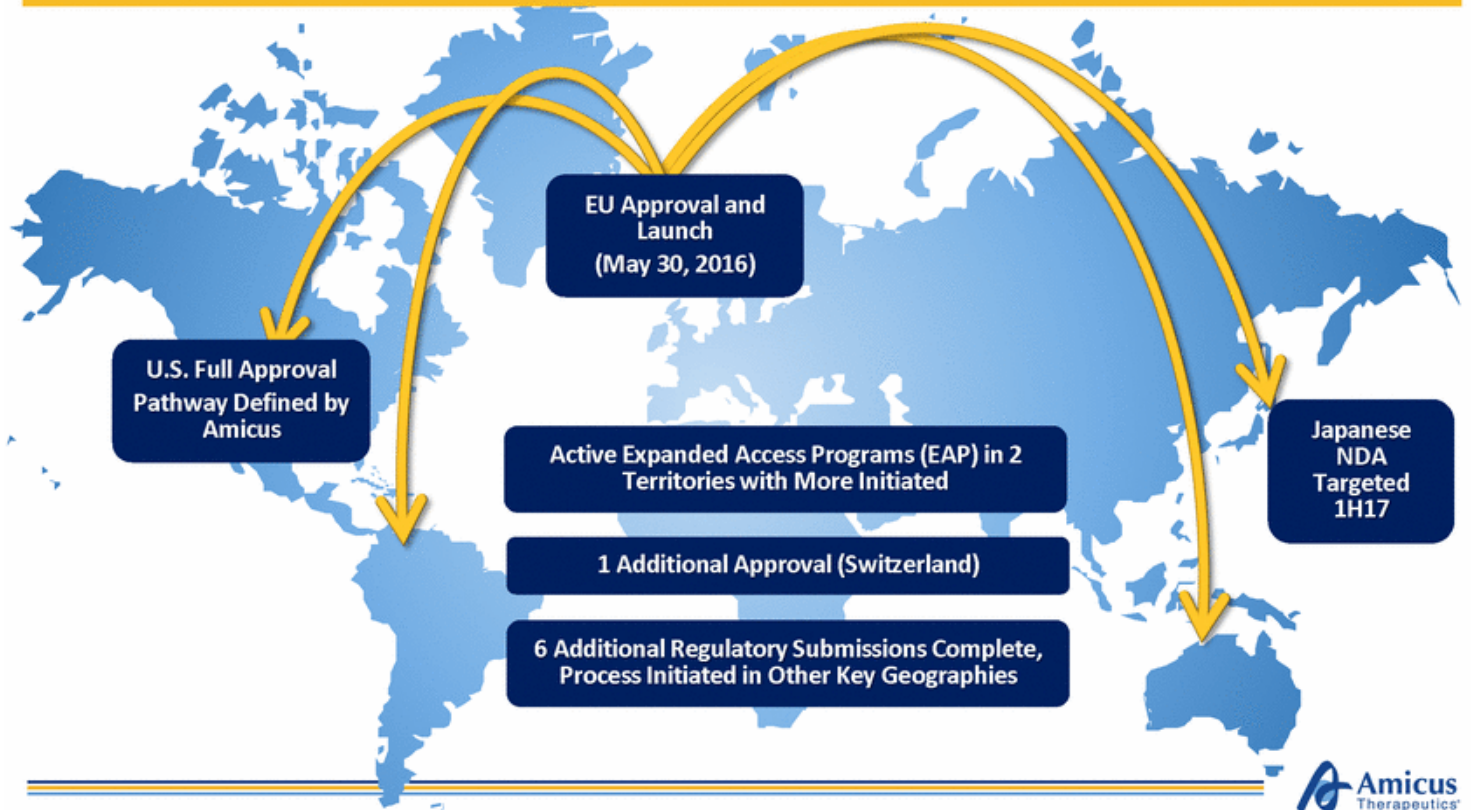
### INVEST IN KEY MID-SIZED EU COUNTRIES AND SELECT EAP OPPORTUNITIES

- Austria, Nordics (4), Netherlands, Belgium, etc.
- ~10% of EU market value
- Selectively invest in key EAP markets



# Global Regulatory Strategy to Reach More Patients

EU Approval is Gateway to ~75% of Global ERT Market



## Amicus Proprietary Fabry ERT

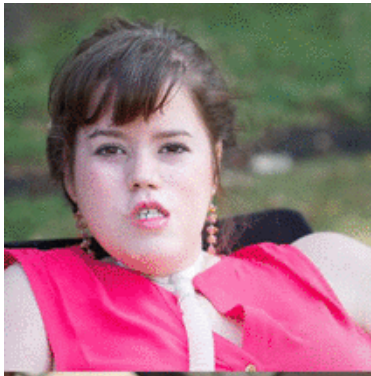
**Building on Biologics Capabilities and CHART™ Platform to Develop Differentiated Novel ERT**

### **Development status:**

- Cell line transferred to manufacturer
- Preclinical data update in 2017

### **Fabry ERT Target Product Profile:**

- Improved drug targeting to key tissues
- Significantly more potent dose delivery
- Co-formulation with chaperone to enhance stability
- Dosing flexibility



# ATB200 Novel ERT for Pompe Disease

Establishing Human Proof of Concept and Validating  
Biologics Platform in 2017

# Pompe Disease Overview

## Devastating Disease Symptoms Persist Across a Broad Spectrum of Patients Despite Available Therapy

Deficiency of GAA leading to glycogen accumulation

Respiratory and cardiac failure are leading causes of morbidity and mortality

Age of onset ranges from infancy to adulthood

5,000 – 10,000 patients diagnosed WW<sup>1</sup>

Symptoms include muscle weakness, respiratory failure, and cardiomyopathy

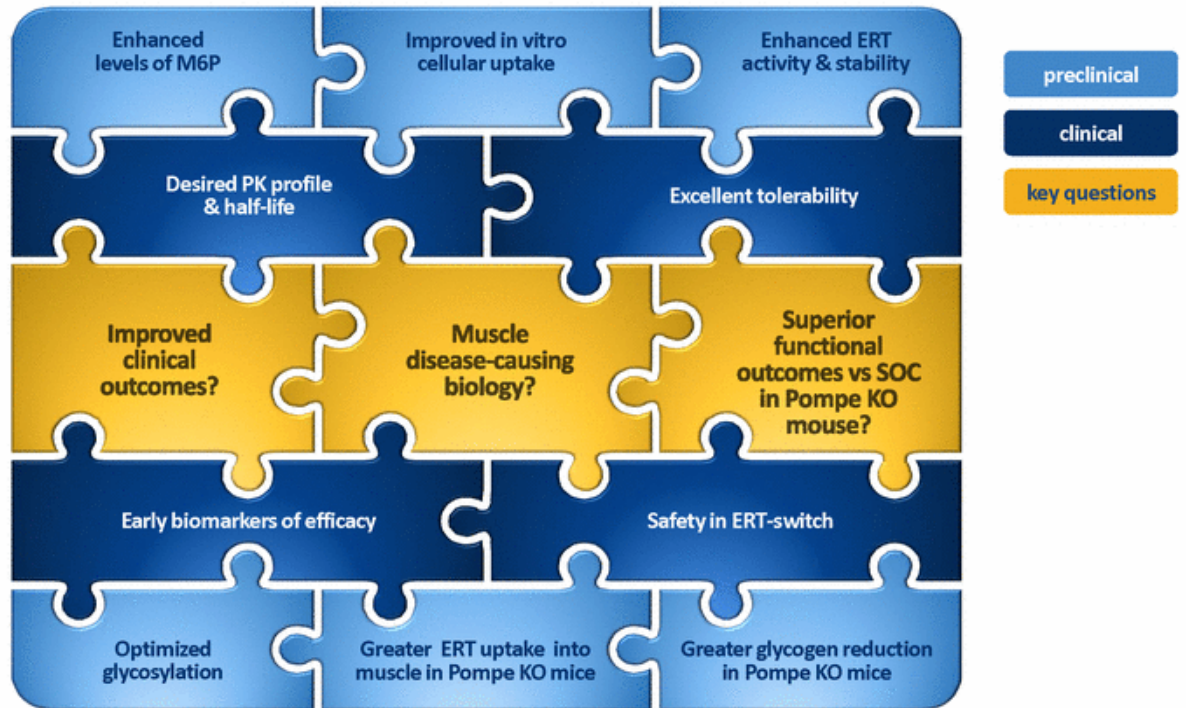
~\$800M+ Global Pompe ERT sales in FY15<sup>2</sup>



1. National Institute of Neurological Disorders and Stroke (NIH). 2. Sanofi Press Release & 10-K

# Pompe Disease: A Complex Disease with Significant Unmet Needs

We've Made Great Strides and Expect to Address Key Remaining Questions in 2017



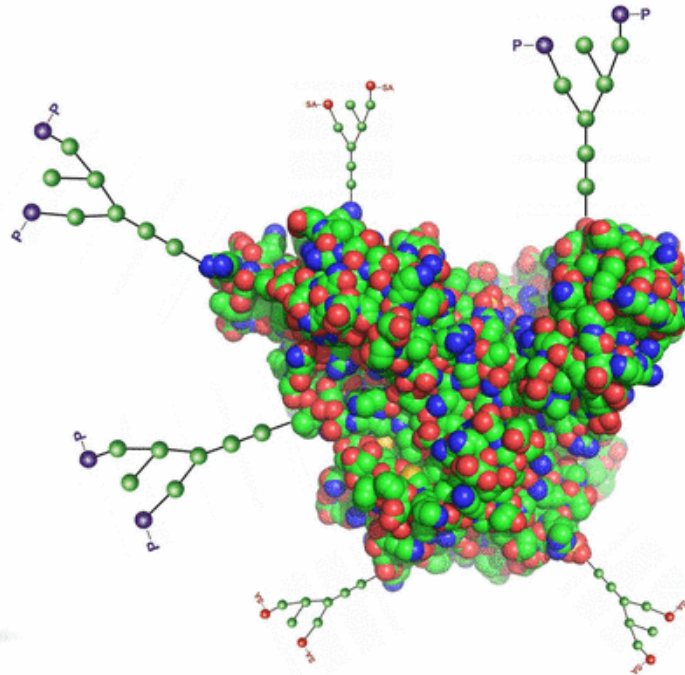


# ATB200 + Chaperone: A Highly Differentiated Approach

## Novel Pompe Treatment Paradigm with Three Key Differentiators

**ATB200  
(Novel ERT)**

**Chaperone  
addition**



**Optimized  
mixture of  
glycans**

**High levels of  
M6P and bis  
M6P**

\*Artist rendering, not actual product image

# Biologics Manufacturing Capabilities

## Highly Successful Biologics Manufacturing Scale-up in Three Years

### Proprietary Process



Research  
Scale / MCB



**5L**  
(Bench Scale)  
2013



**250L**  
(Clinical Scale)  
2014-2015+



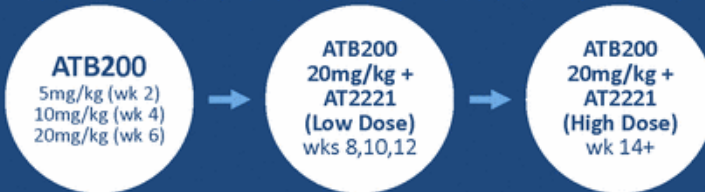
**1000L**  
(Registration Trial &  
Commercial Scale)  
2016-2017+

## Phase 1/2 ATB200-02 Study Design

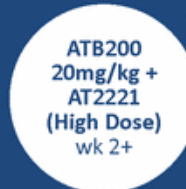
Phase 1/2 Clinical Study to Evaluate Safety, Tolerability, Pharmacokinetics (PK), and Pharmacodynamics (PD) of ATB200 + Chaperone (ATB200/AT2221)

### 18-Week Primary Treatment Period with Long-Term Extension (n ~20)

#### Cohort 1 (Ambulatory ERT-Switch)



#### Cohort 2 (Non-Ambulatory ERT-Switch) & Cohort 3 (ERT-Naive)



#### Assessments:

- Plasma PK
- Safety/Tolerability
- Infusion-Associated Reactions
- Antibody & Cytokine Levels
- Pharmacodynamics
- Efficacy (Long-Term Extension)

# Preliminary Data Summary

## ATB200/AT2221 Demonstrates Promising Preliminary Results in First ERT-Switch Patients at the Targeted Therapeutic Dose

<b>Safety (n=9)*</b>	<ul style="list-style-type: none"> <li>• No serious adverse events (SAEs)</li> <li>• AEs generally mild and transient</li> </ul>
<b>Tolerability</b>	<ul style="list-style-type: none"> <li>• No infusion-associated reactions following 100+ infusions</li> </ul>
<b>PK (n=4)**</b>	<ul style="list-style-type: none"> <li>• Clinical PK profile as predicted consistent with preclinical data</li> <li>• ATB200 plasma clearance rate suggests efficient tissue uptake</li> <li>• ATB200 alone showed greater than dose-proportional increases in exposure, further enhanced with AT2221</li> </ul>
<b>Muscle damage biomarkers (CK, AST, ALT) (n=4)</b>	<ul style="list-style-type: none"> <li>• Early trend to improvement in 2 patients</li> <li>• Stable in 2 patients</li> </ul>
<b>Immunogenicity (n=4)</b>	<ul style="list-style-type: none"> <li>• Anti-rhGAA antibodies remained generally stable</li> <li>• Cytokines remained low and stable during infusions</li> </ul>

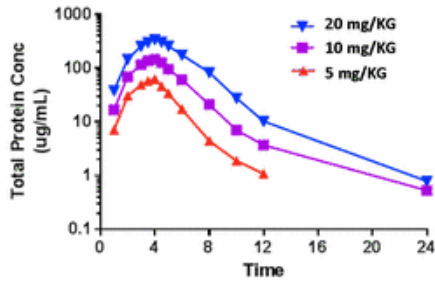
\*N = 8 from Cohort 1 (Ambulatory ERT-Switch) and 1 from Cohort 1 (Non-Ambulatory ERT-Switch); through interim data analysis (maximum 24 weeks)

\*\*N = 4 from Cohort 1

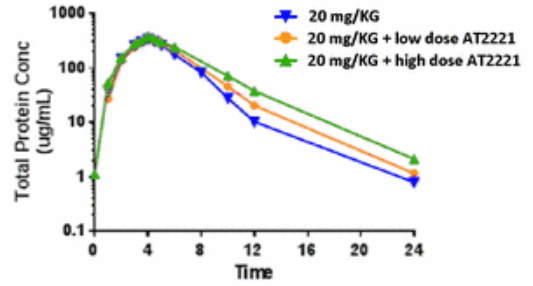
# Pharmacokinetics at Week 14: Plasma Exposure (n=4)\*

**ATB200 Clinical PK Profile as Predicted Based on Preclinical Studies with Greater than Dose Proportional Increases in Exposure that were Enhanced by AT2221**

**Mean GAA Total Protein (n=4)  
5, 10, 20 mg/kg ATB200 Alone**



**Mean GAA Total Protein (n=4)  
20 mg/kg ATB200 + AT2221**



Treatment	Mean AUC <sub>0-∞</sub> (hr*µg/ml)	Mean Clearance (L/hr)
5 mg/kg	215	1.97
10 mg/kg	589	1.45
20 mg/kg	1547	1.11

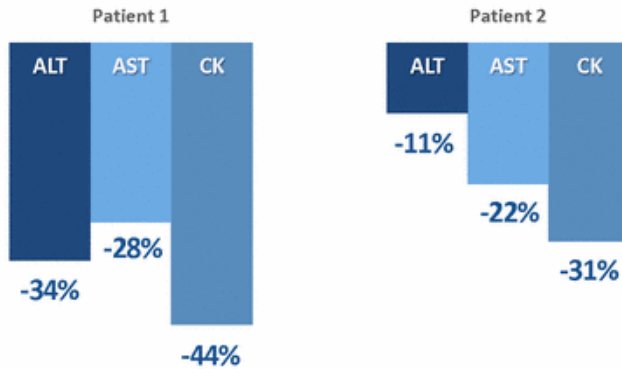
Treatment	Mean AUC <sub>0-∞</sub> (hr*µg/ml)	Mean Clearance (L/hr)
20 mg/kg	1547	1.11
+low dose AT2221	1676	1.03
+high dose AT2221	1945	0.90

\*N = 4 from Cohort 1 (Ambulatory ERT-Switch)

## Muscle Damage Biomarkers at Week 14 (n=4)\*

After Switching from Lumizyme™ to ATB200/AT2221, Muscle Damage Biomarkers (CK, AST, ALT) Trended Toward Early Improvement in Two Patients and Were Stable in the Other Two Patients

**Two patients** showed early trend toward improvement in all three biomarkers:



*Elevated creatine kinase (CK), alanine aminotransferase (ALT), and aspartate aminotransferase (AST) are indicators of damage to muscle tissue*

**Two patients** remained stable

\*N = 4 from Cohort 1 (Ambulatory ERT-Switch)

# Pompe Clinical Study ATB200-02 Data Cascade

A Cascade of Additional Data Points During 2017 to Demonstrate Proof of Concept

## Pompe Milestones in 2017



### 18-WEEK DATA

- Safety / tolerability
- Pharmacokinetics (PK)
- Biomarkers
- Immunogenicity

### EXTENSION DATA

- Motor/pulmonary function



# SD-101 for Epidermolysis Bullosa

Potential First-in-Class Treatment  
with Phase 3 Data Anticipated Mid-2017



# EB Disease Overview

Rare, Devastating, Connective Tissue Disorder with No Approved Treatments

## Disease Overview

- Multiple genes cause disease
- Can affect internal organs
- Can be fatal
- Wounds can lead to life-threatening infections
- Diagnosis: infancy to adulthood
- 30,000 – 40,000+ diagnosed in major global regions
- \$1B+ potential market

## Three Major EB Types

(~99% of EB Population)

SIMPLEX (75%)



DYSTROPHIC (20%)



JUNCTIONAL (5%)



# Proof of Concept Findings

## Phase 2 Results Informed Phase 3 Design

### Phase 2a Key Takeaways (SD-101 3%)



1-Year-Old Girl with EB Simplex at Baseline



Following 2 months of treatment with SD-101

**Breakthrough  
Therapy  
Designation**

### Phase 2b Key Takeaways (SD-101 6%)

- Faster time to wound closure
- Higher proportion with complete closure
- Reduction in total body surface area (BSA) of wounds
- Larger wounds (>10 cm<sup>2</sup>) showed widest separation versus placebo
- Daily administration generally safe and well-tolerated

**Informed  
Phase 3  
Study Design**

## Phase 3 Study - Delivering on Our EB Vision

### Phase 3 Study Optimized for Success with Top-Line Data Anticipated Mid-2017

#### SD-005 Study Design Optimized

- Sample size of up to 150 patients
- Larger baseline target wound size
- Time to wound closure endpoint elevated

#### Status

- 95%+ participation in extension study
- Enrollment near complete
- Top-line data anticipated mid-2017



# Cyclin-Dependent Kinase-Like 5 (CDKL5) Deficiency

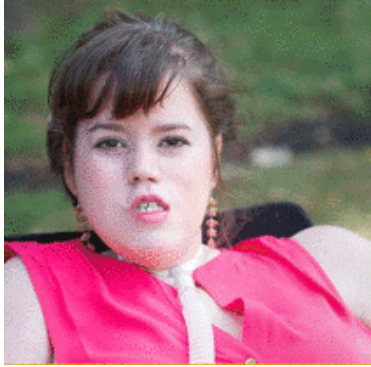
**Preclinical Development Underway for a Rare, Devastating, Genetic Neurological Disease with No Approved Treatments**

## Disease Overview

- Genetic mutations in CDKL5 gene result in deficient protein essential for normal brain development
- Persistent, spontaneous seizures starting in infancy
- Severe impairment in neurological development
- Most affected children cannot walk, talk or care for themselves
- May include scoliosis, visual impairment, sensory issues, and gastrointestinal complications
- >1,200 documented cases worldwide<sup>1</sup>
- Patient identification rising significantly



1. LouLouFoundation.org



# Financial Summary & Key Milestones

## Financial Summary & Guidance

### Balance Sheet Strengthened with \$331M Cash at 12/31/16 and Cash Runway Into 2H18

Financial Position	December 31, 2016
Cash	\$331M
Debt	\$250M
FY17 Net Operating Cash Flow Guidance	\$175-\$200M
FY17 Net Cash Spend Guidance*	\$200-\$225M
Cash Runway	2H18
Capitalization	December 31, 2016
Shares Outstanding	142,691,986

\*Includes third party milestone payments and capital expenditures

## Key Milestones in 2017

### 2017

#### Fabry Disease (Galafold)

- Galafold international launch targeting 300 patients by YE17
- Japan NDA submission
- Fabry GI study initiation

#### Pompe Disease (ATB200/AT2221)

- Phase 1/2 data cascade
- Meetings with U.S. and EU regulators

#### Epidermolysis Bullosa (EB) (SD-101)

- Phase 3 data

#### Strong Balance Sheet

- Significant revenue contribution in 2017
- Runway into 2H18

Thank You

