# **C**ytokinetics

#### Sarcomere Directed Therapies

## EMPOWERING MUSCLE EMPOWERING LIVES



John, diagnosed with heart failure

Jillian, diagnosed with HCM

Chuck, diagnosed with ALS

### Forward-Looking Statements

This Presentation contains forward-looking statements for purposes of the Private Securities Litigation Reform Act of 1995 (the "Act"). Cytokinetics disclaims any intent or obligation to update these forward-looking statements, and claims the protection of the Act's Safe Harbor for forward-looking statements. Examples of such statements include, but are not limited to, statements related Cytokinetics' and its partners' research and development and commercial readiness activities, including the initiation, conduct, design, enrollment, progress, continuation, completion, timing and results of clinical trials, projections regarding growing prevalence, low survival rates and market opportunity in heart failure; Cytokinetics' commercial readiness for omecamtiv mecarbil; Cytokinetics' ability to earn and receive milestone payments; the timing and results of clinical trials of AMG 594 and CK-274; the timing of any potential commercial launch of our product candidates, if approved; commercial opportunities for our product candidates; Cytokinetics' cash runway; interactions with the FDA; the properties, potential benefits and commercial potential of CK-274, omecamtiv mecarbil, AMG 594, reldesemtiv and Cytokinetics' other drug candidates. Such statements are based on management's current expectations; but actual results may differ materially due to various risks and uncertainties, including, but not limited to, potential difficulties or delays in the development, testing, regulatory approvals for trial commencement, progression or product sale or manufacturing, or production of Cytokinetics' drug candidates that could slow or prevent clinical development or product approval, including risks that current and past results of clinical trials or preclinical studies may not be indicative of future clinical trial results, patient enrollment for or conduct of clinical trials may be difficult or delayed, Cytokinetics' drug candidates may have adverse side effects or inadequate therapeutic efficacy, the FDA or foreign regulatory agencies may delay or limit Cytokinetics' or its partners' ability to conduct clinical trials, and Cytokinetics may be unable to obtain or maintain patent or trade secret protection for its intellectual property; Astellas', Amgen's or Ji Xing's decisions with respect to the design, initiation, conduct, timing and continuation of development activities for reldesemtiv, omecamtiv mecarbil or CK-274, respectively; Cytokinetics' ability to satisfy and conditions to the sale of its royalty interest in *mavacamten* or disbursement of funding from RTW; Cytokinetics may incur unanticipated research, development and other costs or be unable to obtain financing necessary to conduct development of its products; standards of care may change, rendering Cytokinetics' drug candidates obsolete; competitive products or alternative therapies may be developed by others for the treatment of indications Cytokinetics' drug candidates and potential drug candidates may target; and risks and uncertainties relating to the timing and receipt of payments from its partners, including milestones and royalties on future potential product sales under Cytokinetics' collaboration agreements with such partners. These forwardlooking statements speak only as of the date they are made, and Cytokinetics undertakes no obligation to subsequently update any such statement, except as required by law. For further information regarding these and other risks related to Cytokinetics' business, investors should consult Cytokinetics' filings with the Securities and Exchange Commission (the "SEC").

Sarcomere Directed Therapies

### **OUR MISSION**

To bring forward new medicines to improve the healthspan of people with devastating cardiovascular and neuromuscular diseases of impaired muscle function.



Achieve regulatory approvals for at least two drugs arising from our pipeline

> Build commercial capabilities to market and sell our medicines reflective of their innovation and value

> > Generate sustainable and growing revenues from product sales

Double our development pipeline to include ten therapeutic programs

Expand our discovery platform to muscle energetics, growth and metabolism

Be the science-driven company people want to join and partner with

Our vision is to be the

leading muscle biology

biopharma company that

of patients with diseases of impaired muscle function through access to our

pioneering medicines



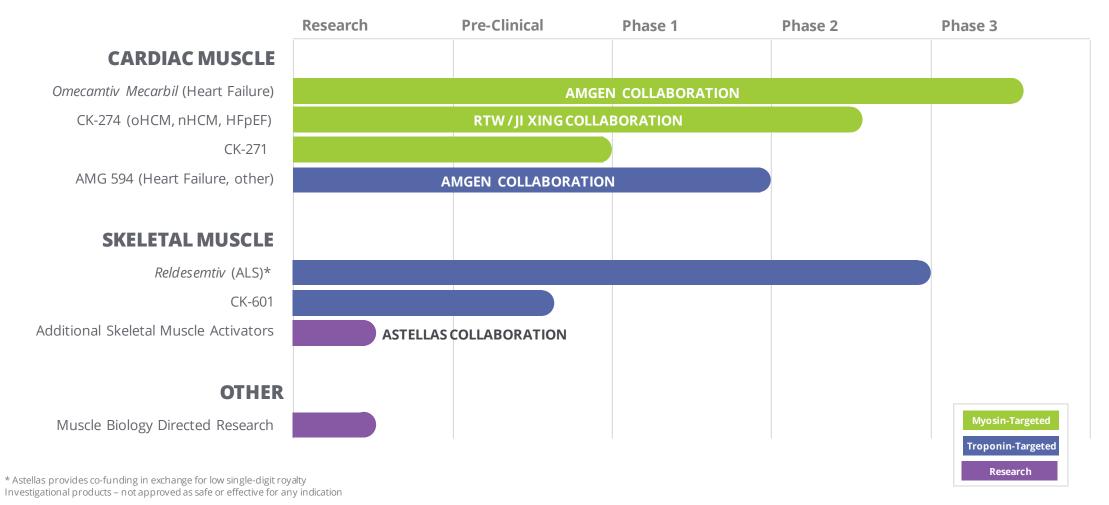
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As always, we will support disease advocacy groups elevating the patient voice and live by our values of integrity, fairness and compassion in all that we do.

### How Do We Get There?



### Pipeline of Novel Muscle-Directed Drug Candidates





### **Corporate Development Strategy**



Above illustrative timelines are based on current assumptions and projections. All such timelines are subject to change andmay be materially delayed based on a variety of factors, including patient enrollment, clinical trial results, regulatory review, our partners' ability to manufacture products and other factors.

## *Omecamtiv Mecarbil*: Collaborations & Agreements Amgen & Royalty Pharma



### Amgen Collaboration

Purchase Option: 2006 Exercise Option Ex-Japan: 2009 Expanded to Include Japan/Purchase Equity: 2013 Received >\$220M over 13 Years

**Amgen** responsible for development and commercialization subject to Cytokinetics' participation rights\*

**Cytokinetics** could earn over \$600M in milestone payments

#### Commercialization:

- Cytokinetics may receive escalating double-digit royalties
- Cytokinetics to co-fund Phase 3
  development program
- Co-fund enables co-promote NA
- Cytokinetics reimbursed for certain sales force activities



### **Royalty Monetization**

Royalty Pharma paid \$100M\*\* for 4.5% royalty on worldwide sales of *omecamtiv mecarbil*: 2017

**Cytokinetics** gains right to co-promote *omecamtiv mecarbil*, if approved, in institutional care settings in North America, with reimbursement from Amgen for certain sales force activities

**Joint commercial** operating team responsible for commercialization program

- Royalty rate may increase up to additional 1% associated with timing of US approval
- Cytokinetics agreed to exercise option to co-invest \$40M in Ph 3 development program in exchange for up to incremental 4% royalty on increasing worldwide sales outside of Japan
- Cytokinetics retains right to receive >\$600M in additional potential milestone payments and escalating double-digit royalties that may exceed 20% on tiered worldwide sales outside Japan; lower royalty rate in Japan

\*Servier has a sub-license from Amgen to commercialize omecamtiv mecarbil in Europe and certain other countries.

\*Comprised of \$90M for royalty purchase and \$10M for common stock purchase.



### CK-3773274: Collaborations & Agreements RTW Investments, LP & Ji Xing Pharmaceuticals Limited



RTW & Ji Xing Pharma Licensing Collaboration, Funding Commitments & Royalty Monetization

RTW Investments committed capital, funding and sale proceeds of \$250M to Cytokinetics

Ji Xing Pharma to develop & commercialize CK-274 in China, subject to royalties and up to \$200M in milestone payments

RTW Investments purchases equity and agrees to purchase royalty; provides access to capital for development of CK-274

#### Ji Xing Pharma

Ji Xing to develop & commercialize CK-274 in Greater China and Taiwan

Cytokinetics receives **\$25M upfront**; eligible to receive **\$200M** in development & commercial milestones & double-digit royalties on sales of CK-274 in licensed territory

#### **RTW: Funding for Development of CK-274**

Cytokinetics receives options for additional funding for further development of CK-274 in HCMs:

- Eligible for \$45M in each of 2 tranches (upon initiation of global registration programs in oHCM and nHCM) in exchange for 2% royalty on sales in U.S. & certain European countries
- If **full \$90M** received, Cytokinetics pays RTW 4% royalty on sales of CK-274 in U.S. & certain European countries, subject to royalty reductions for potential other indications

#### **RTW: Other Purchases**

RTW agrees to purchase Cytokinetics' royalty rights **on future sales of** *mavacamten* for **\$85M** 

RTW purchases **\$50M of Cytokinetics' common stock** at \$25 per share



### *Reldesemtiv:* Collaborations & Agreements



Astellas Collaboration

### Cytokinetics has exclusive rights to *reldesemtiv*, CK-601 and other FSRAs

**Cytokinetics** has exclusive control and responsibility for development and commercialization of *reldesemtiv*, CK-601 and other fast skeletal regulatory activators

Astellas to pay certain costs up to \$12M for potential Phase 3 clinical trial of *reldesemtiv* in ALS

Cytokinetics to pay Astellas low- to mid- single digit **royalty on sales** of *reldesemtiv* in certain countries

Astellas funds joint research program with 15 Cytokinetics employees through 2020



### **Commercialization Strategy**

Leveraging partnership with Amgen to finance the build of our commercial business

Amgen to reimburse Cytokinetics' commercialization costs in North America

Potential royalties and milestone payments from Amgen expected to support Cytokinetics' commercialization of CK-274, *reldesemtiv* in North America and Europe



ALS

oHCM, nHCM

Focus to Concentrated Customer Segments (e.g. Centers of Excellence)





Sarcomere Directed Drug Development

## **CARDIAC MUSCLE**

*Omecamtiv Mecarbil* AMG 594 CK-274, CK-271



### Tremendous Need Exists to Improve CV Care

#### Novel CV drugs are desperately needed to improve patient healthspan

#### Heart Disease the **Leading Cause of Death** in the US



**#1 Heart disease** (185)



#2 Cancer (152)



#3 Respiratory (49)



#4 Stroke (38)

2018 US Deaths per 100,000 Standard Population

#### CV Disease the Leading Category in Healthcare Spend



#### **#1 Cardiovascular** (\$327B)



#2 Musculoskeletal (\$300B)

#3 Respiratory (\$231B)

#4 Endocrine (\$227B)

2019 US Expenditure by Disease Category

#### **Lack of innovation** Exists Across CV Conditions



#1 Rare diseases (211 drugs approved)

#2 Neurologic disease (139 drugs approved)



#3 Cancer (133 drugs approved)



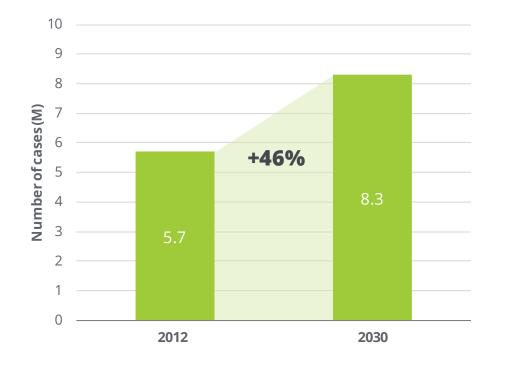
**#10 Cardiovascular** (43 drugs approved) ... and just 4 drugs for HF

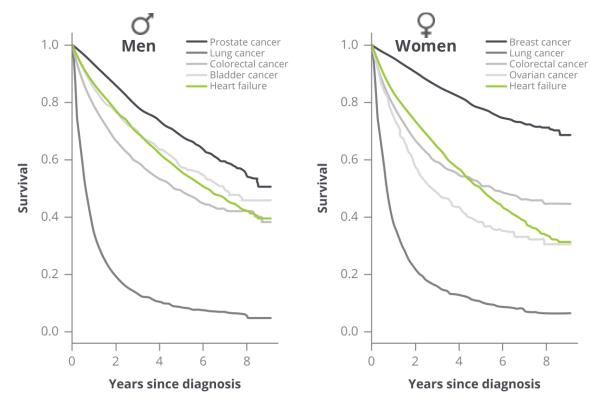
# of Approved Drugs since 2010

Source: NCHS Data Brief, No. 355 January 2020, Peterson-KFF, Health System Tracker, PharmaProjects.

### Heart Failure: Growing Prevalence and Low Survival Rates 6 million people have heart failure in the United States

**Prevalence Expected to** Increase by 46% from 2012 - 2030





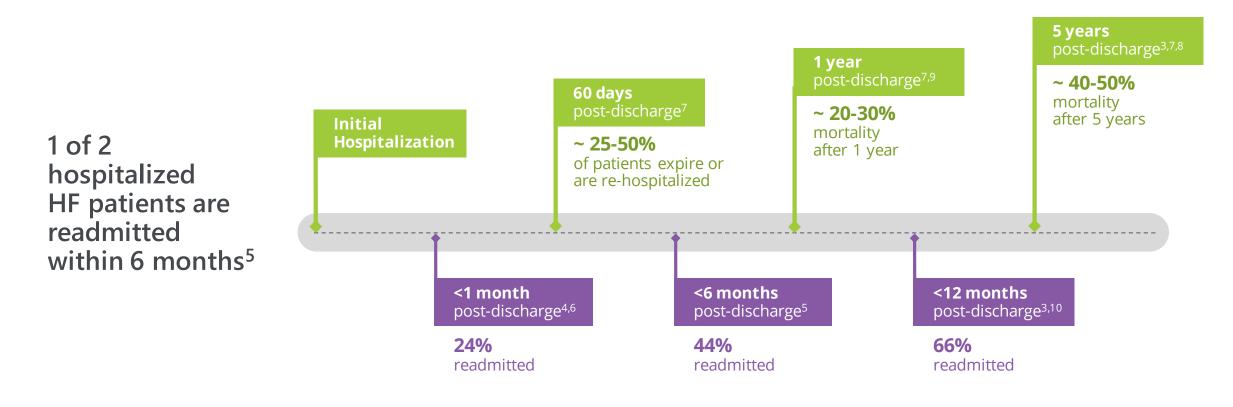
Mozzafarian, et al. Circulation 2016; 133: e38-360

Mamas et al. Eur J Heart Fail. 2017 Sep;19(9):1095-104

**HF Survival Rates Worse than Some** 

**Prevalent Cancers** 

### High Mortality and Hospital Readmission Rates Acute heart failure is the most frequent cause of hospitalization in people > 65<sup>1,2</sup>



1, Adams et al. Am Heart J 2006; 149:209-16

- 2. Chen et al. *JAMA* 2011;306:1669-78
- 3. Dickstein et al. *Eur Heart J* 2008;29:2388-442
- 4. Korda, et al. BMC Health Serv Res. 2017;21;17(1):220.
- 5. Krumholz et al. Arch Intern Med 1997;15799 105



9. Shahar, et al. / Card Fail 2004; 10(5):374-9

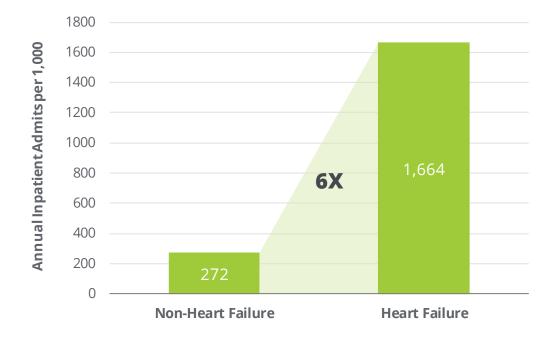
10. Whellan et al. *Circulation* 2010 Jan;3(1):33-40

### High Economic Burden of Heart Failure

Heart failure costs ~\$123 billion annually, representing 33% of total Medicare budget<sup>1,2</sup>

#### Inpatient Admission Rates for HF Patients 6X Higher than Non-HF Patients<sup>1</sup>

Heart failure is the most frequent diagnosis for hospitalized Medicare patients in the US<sup>1,2</sup>

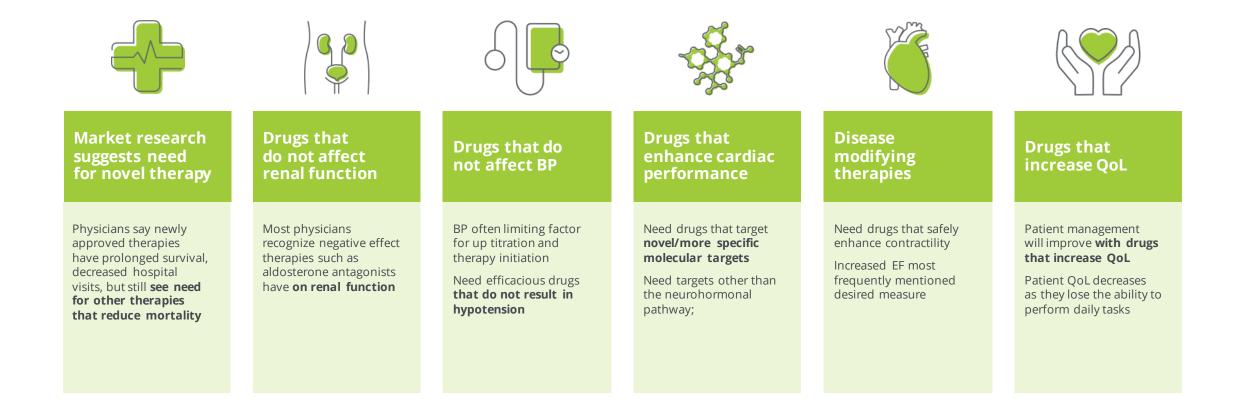


1. Milliman Analysis of Medicare 5% Sample 2011-2012 (2012 index year, 2011 look back year)

2. Milliman Analysis of Medicare 5% Sample (2014 index year, 2013 look back year) and Office of the Actuary 2016 Board of Tru stees Report. The costs only include Part A & B costs

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### Significant Unmet Need in HFrEF Proprietary market research suggests need for novel therapy



### Significant Unmet Need in HCM Current therapies do not target underlying disease



1 in 500 have genetic mutation

1 in 3200 have HCM

Subset of patients have progressive symptoms, atrial fibrillation, stroke, sudden death Surgical myectomy or percutaneous ablation

septal thickness is effective

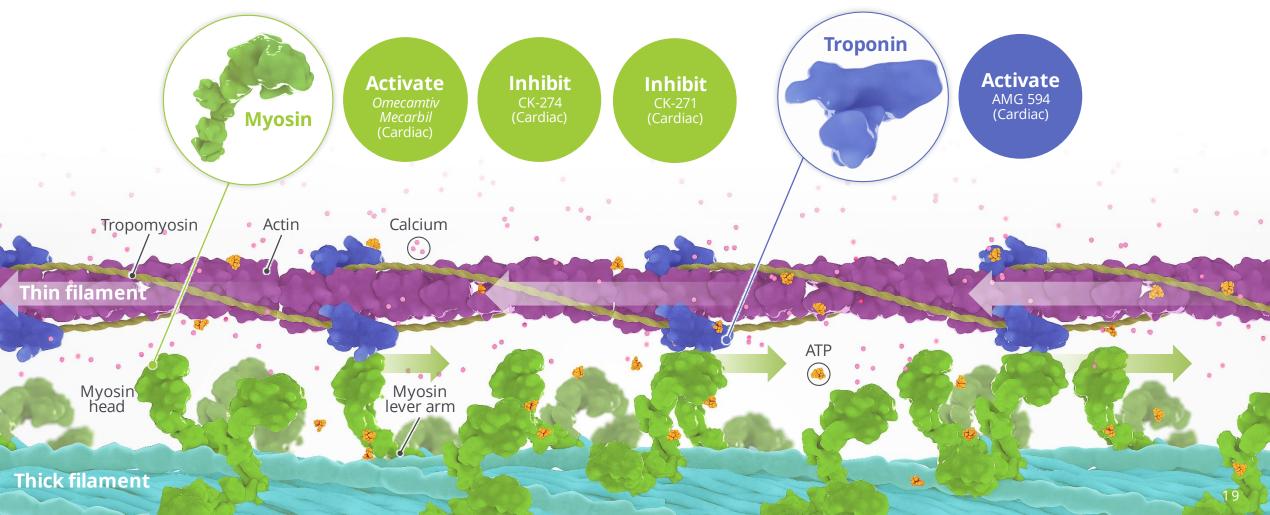


**Current medical** therapy does not target underlying disease

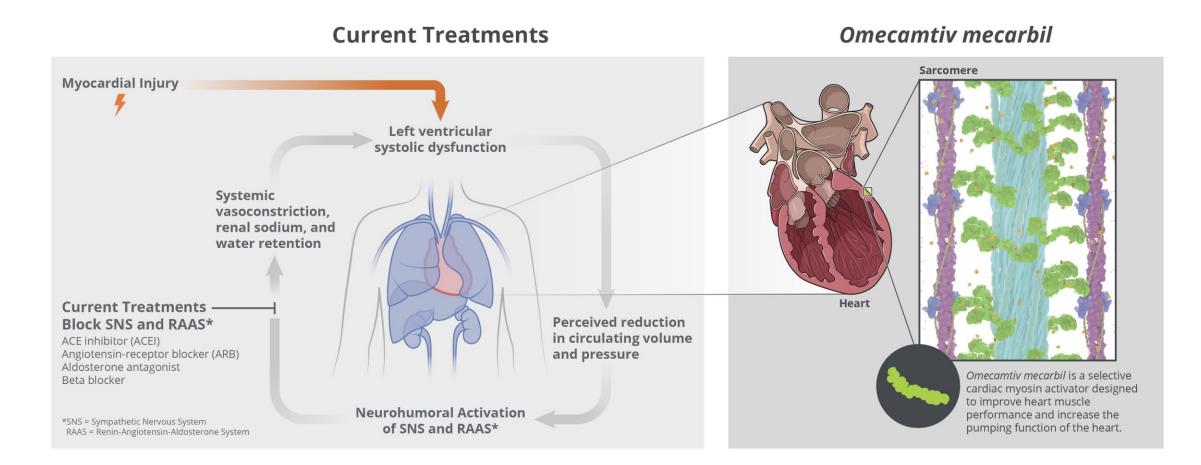
Indirect mechanisms of action with systemic side effects Variable efficacy, often inadequate

### Sarcomere Directed Drug Development Cardiac muscle

The sarcomere is a molecular structure found in skeletal and cardiac muscle that enables cardiac myocytes to contract and generate force

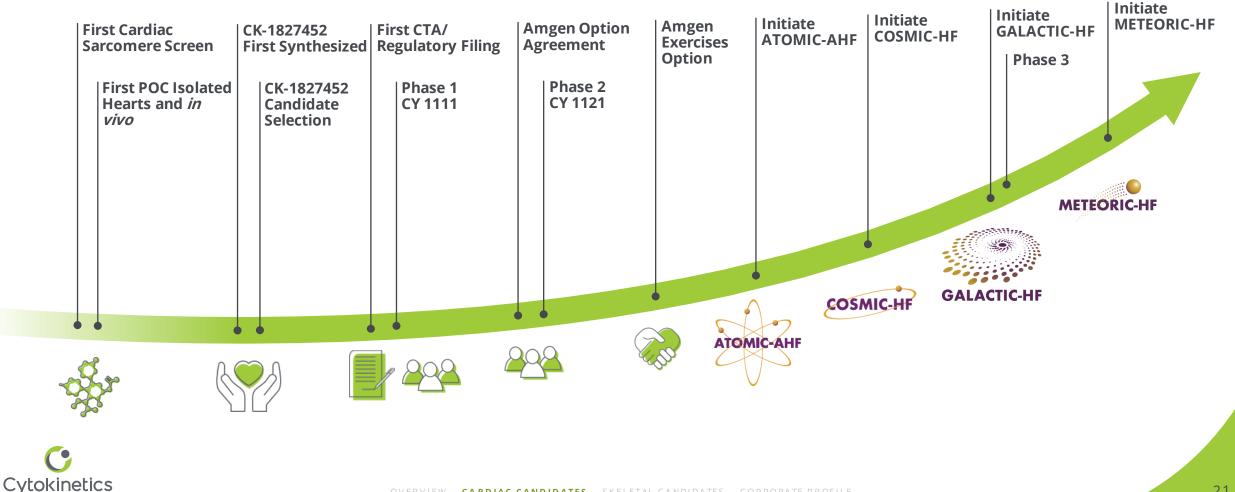


### Omecamtiv Mecarbil: Novel Mechanism Approach



### *Omecamtiv Mecarbil:* Pivotal Phase 3 Results Q4 2020

#### 11 Phase 1 studies with over 300 patients, 7 Phase 2 trials with over 1,400 patients



### What Did We Learn from COSMIC-HF?



#### Phase 2 clinical trial of *omecamtiv mecarbil*

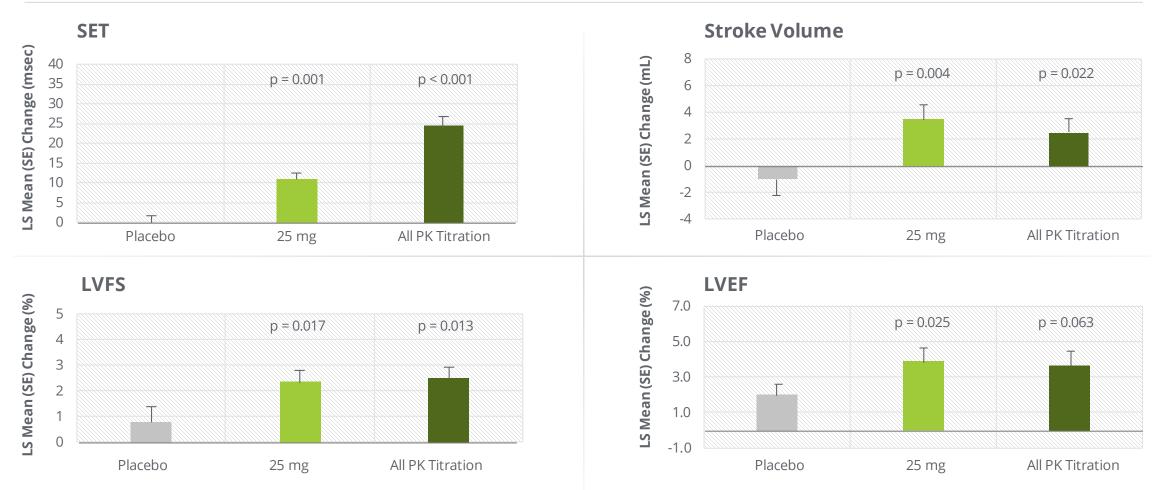


- First demonstration of the effectiveness of PKguided dose titration to prevent excessive exposures to omecamtiv mecarbil
- **Demonstrated improvement** in several different measures that **predict improved prognosis** 
  - Decreased left ventricular volumes
  - Decreased NT-proBNP
  - Decreased heart rate
- Demonstrated **favorable tolerability** over 20 weeks of treatment



### Dose-Dependent Increases in Cardiac Performance Pharmacodynamic results from COSMIC-HF



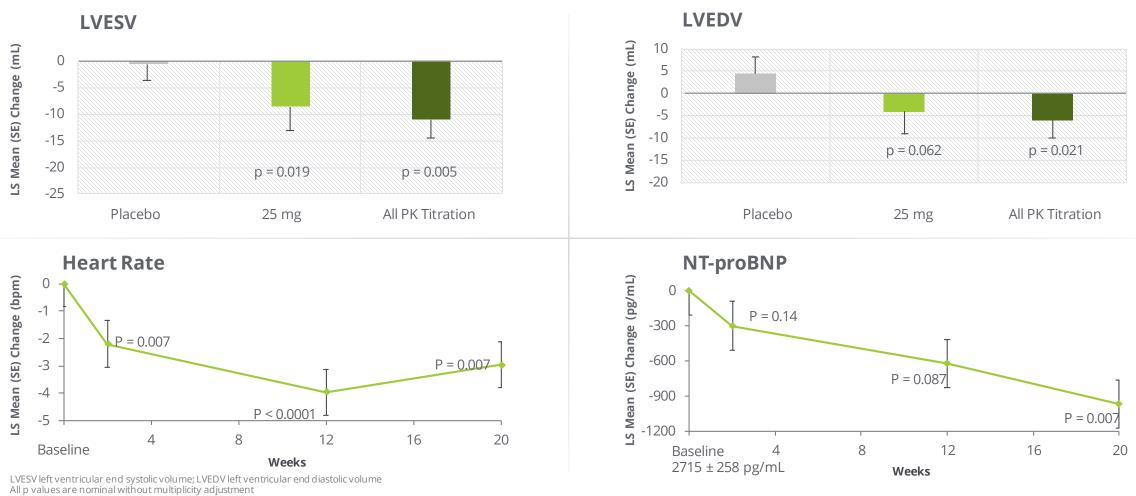


LVEF, left ventricular ejection fraction; LVFS, left ventricular fractional shortening; SE, standard error; SET, systolic ejection time ; all p values are nominal without multiplicity adjustment.

### Decreases in Physiology & Cardiac Risk



Reductions in heart volume, oxygen demand & wall stress in COSMIC-HF



### Neutral or Improved Measures of Diastolic Function cosmic-HF Improved systolic function with no negative impact on diastolic function



p<0.0001

**PK** Titration

E/e' **IVRT** 10 Change in E/e' ratio Change in IVRT (ms) p<0.0001 5 p=0.6718 0 -1 p=0.1355 -5 -2 Placebo 25 mg Fixed Dose Placebo 25 mg Fixed Dose **PK** Titration **TR Velocity Diastolic Filling Time** 10 20 10 0 0

Change in TR velocity (cm/s) -10 p=0.9767 -20 p=0.0055 -30 Placebo 25 mg Fixed Dose **PK** Titration

IVRT=isovolumic relaxation time TR=tricuspid regurgitation

**Cvtokinetics** 

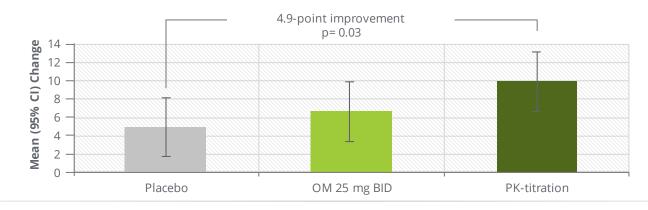


#### -10 p=0.877 -20 p=0.221 -30 25 mg Fixed Dose **PK** Titration Placebo

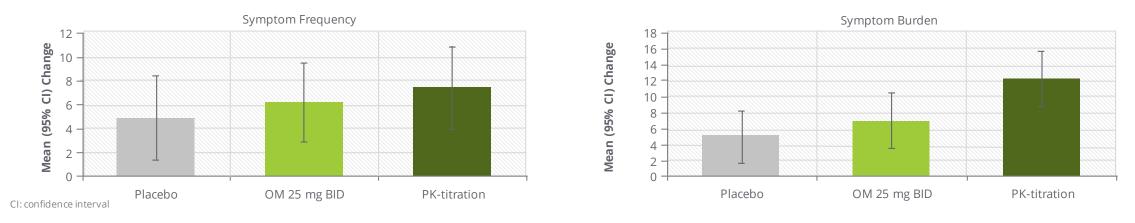
### Improvements in Symptoms



#### Change from Baseline in KCCQ Total Symptoms Score at Week 20



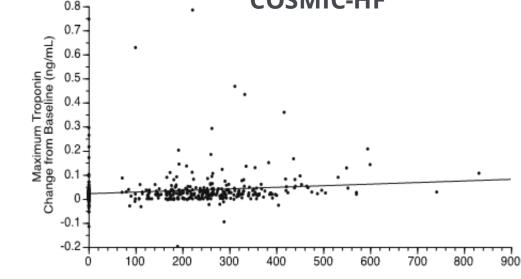
#### Change from Baseline in KCCQ Subdomain Scores at Week 20



### Troponins: Small Increases, Unrelated to Exposures to Omecamtiv Mecarbil

- Baseline troponin I levels were above the diagnostic limit for myocardial infarction (0.04 ng/mL) for ~25% in COSMIC-HF
- Events of increased troponin I (n=278 across all treatment groups) were independently adjudicated and none were determined to be myocardial ischemia or infarction.<sup>1</sup>

1. Teerlink, et al. The Lancet 2016; 2895-2903



Maximum Omecamtiv Mecarbil Concentration (ng/mL)

**COSMIC-HF** 

Troponin I Levels in COSMIC-HF (ng/mL)								
	Placebo	25 mg BID	All PK Titration	All OM				
Median at Baseline (Q1, Q3)	0.025 (0.016, 0.041)	0.022 (0.016, 0.039)	0.022 (0.016, 0.042)	0.022 0.016, 0.040				
Median Change from Baseline to Week 20 (Q1, Q3)	0.000 (-0.007, 0.004)	0.001 (0.000, 0.012)	0.006 (0.000, 0.024)	0.004 (0.000, 0.019)				



### Prognostic Implications: NT-proBNP and Remodeling

Studies demonstrate correlation with cardiovascular outcomes

Patients in PARADIGM-HF who had significant reductions in NT-proBNP had lower rates of CV death or heart failure hospitalization<sup>1</sup>

Meta-analysis of drug/device therapies demonstrated association between LV remodeling and longer-term effects on mortality in patients with LVD<sup>2</sup>

Terminal Pro-B-Type Natriuretic cations of Changes ir MERICAN COLLEGE OF CARDIOLOGY Jeutic Effects on Mortality in With Heart Failure and Red

1. Zile et al. JACC 2016; 68(22); 2425-2436 2. Kramer et al. JACC 2010;56(5):392-406



### Pivotal Phase 3 Trial Completed Enrollment

#### **GALACTIC-HF** continuing following second planned interim analysis



#### Topline results expected in Q4 2020

#### Overview

Enrolled 8,256 patients at ~1,000 sites in 35 countries

#### **Primary Endpoint**

Composite of time to cardiovascular (CV) death or first HF event\*, whichever occurs first

#### **Secondary Endpoints**

- Time to CV death
- Change in Kansas City Cardiomyopathy Questionnaire Total Symptoms Score (KCCQ TSS) from baseline to Week 24
- Time to first HF hospitalization
- Time to all-cause death

#### **Key Design Points**

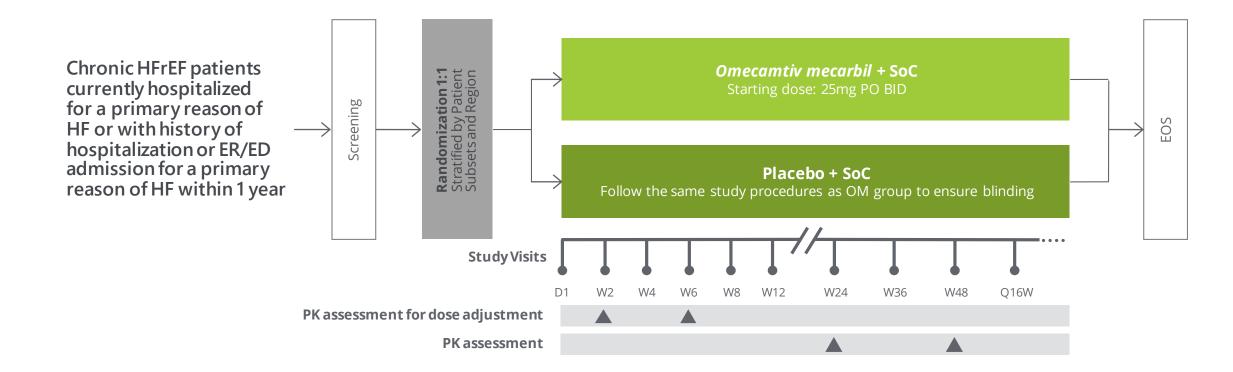
- Dose optimization based on trough concentration of *omecamtiv mecarbil* at 2 weeks and 6 weeks
- High risk patients enrolled from inpatient and outpatient settings
- Designed to provide 90% statistical power to assess risk of CV death

\*An HF event defined as the presentation of the subject for an urgent, unscheduled clinic/office/ED visit, or hospital admission, with a primary diagnosis of HF, where the patient exhibits new or worsening symptoms of HF on presentation, has objective evidence of new or worsening HF, and receives initiation or intensification of treatment specifically for HF (Hicks et al, 2015). Changes to oral diuretic therapy do not qualify as initiation or intensification of treatment.



### **Clinical Trial Overview**







### GALACTIC-HF: Design Paper & Interim Analyses



### Passed first interim analysis: Q1 2019

- Assessed futility only (HR>1.0)
- Triggered at 1/3 of target 1,590 deaths
- Passed second interim analysis: Q1 2020
  - Assessed futility & superiority
  - Triggered at 2/3 of target 1,590 deaths
  - Superiority: p-value for efficacy <0.0005 (one-sided alpha)









- 8,256 patients enrolled in 35 countries
- Population at high risk for cardiovascular events despite being well-treated on standard of care
  - Inpatient population: 25%
  - Time from most recent HF hospitalization/ED visit (months), median (Q1-Q3): **2 (1-5)**
  - NT-proBNP, median (Q1–Q3): 1,998 pg/mL (990-4,078)
  - LVEF, mean: 27%

Cytokinetics

• ENTRESTO® use: 19%

	Overall Inpatient		Outpatient	
	(N=8,256)	(N=2,083)	(N=6,173)	
Time from most recent HF hospitalization/ ED visit (months), median (Q1-Q3)	2 (1-5)	-	3 (2-6)	
Age (years), mean (SD)	65 (11)	65 (11)	64 (11)	
Male, %	79	80	78	
White, %	78	82	76	
LVEF (%), mean (SD)	27 (6)	27 (6)	27 (6)	
NYHA Class II/III/IV, %	53/ 44/ 3	37/ 57/ 6	59/ 39/ 2	
NT-proBNP (pg/mL), median (Q1-Q3)	1998 (990-4078)	2509 (1240-5133)	1884 (923-3772)	
Ischemic Heart Disease Etiology, %	55	56	54	
KCCQ Total Symptom Score, mean (SD)	66 (25)	53 (25)	71 (23)	
Atrial Fibrillation or Flutter History, %	42	48	40	
Chronic Kidney Disease, %	36	39	35	
eGFR (mL/min/1.73m²), median (Q1-Q3)	59 (44-74)	54 (41-70)	60 (45-75)	
SBP (mmHg), mean (SD)	117 (15)	114 (14)	117 (16)	
ACEi, ARB or ARNi, %	87	83	88	
ARNi (ENTRESTO®) %	19	14	19	
Beta Blocker, %	94	93	95	
MRA, %	77	81	76	
Diuretics other than MRAs, %	90	92	89	
Digitalis Glycosides, %	17	17	17	
SGLT2 Inhibitors, %	3	3	3	

### Comparing Patients in Large Heart Failure Trials Highest risk patients in VICTORIA; lower risk in PARADIGM-HF, DAPA-HF



	GALACTIC-HF	VICTORIA	PARADIGM-HF	DAPA-HF
	(N=8,256)	(N=5,050)	(N=8,339)	(N=4,744)
Age (y, mean (SD))	65 (11)	67.3 (12.2)	63.8 (11.4)	66 (11)
Race				
White	6,358 (77.0%)	3,239 (64.1%)	5,544 (65.7%)	3,333 (70.2%)
Black or African American	561 (6.7%)	249 (4.9%)	428 (5.1%)	226 (4.7%)
Asian	710 (8.6%)	1,132 (22.4%)	1,509 (17.9%)	1,109 (23.3%)
Other	627 (7.6%)	430 (8.5%)	918 (11.0%)	76 (1.6%)
Geographic Region				
Eastern Europe	2,705 (32.7%)	1,694 (33.5%)	2,826 (33.5%)	1,604 (33.8%)
Western Europe	1,921 (23.3%)	889 (17.6%)	2,051 (24.3%)	550 (11.6%)
Asia Pacific	670 (8.1%)	1,183 (23.4%)	1,487 (17.6%)	1,096 (23.1%)
Latin and South America	1,575 (19.1%)	724 (14.3%)	1,433 (17.0%)	816 (17.2%)
North America	1,386 (16.8%)	560 (11.1%)	602 (7.1%)	678 (14.3%)
Ejection fraction at screening (% mean (SD))	26.6 (6.3)	28.9 (8.3)	29.5 (6.2)	31.1 (6.8)
Concomitant Medications				
ACE-I or ARB	5,803 (70.3%)	3,700 (73.4%)	8,339 (100%)	3,986 (83.6%)
Beta blocker	7,763 (94.0%)	4,691 (93.1%)	7,811 (93.6%)	4,558 (96.0%)
MRA	6,363 (77.1%)	3,545 (70.3%)	4,671 (55.3%)	3,370 (71.0%)
ARNI sacubitril/valsartan	1.595 (19.3%)	731 (14.5%)	-	508 (10.7%)
NT-proBNP at Screening (pg/ml, median (25 <sup>th</sup> , 75 <sup>th</sup> ))	<b>1,998</b> (990-4078)	<b>2,816</b> (1556-5314)	<b>1,608</b> (886-3,221)	<b>1,428</b> (857-2,649)
NYHA Class at Baseline				
Class II	4,376 (53.0%)	2,975 (59.0%)	5,919 (70.1%)	3,203 (67.5%)
Class III	3,633 (44.0%)	2,003 (39.7%)	2,018 (23.9%)	1,498 (31.6%)
Class IV	248 (3.0%)	66 (1.3%)	60 (0.7%)	43 (0.9%)

### Second Phase 3 Clinical Trial Underway Investigating effect of *omecantiv mecarbil* on exercise tolerance



#### Trial enrolling patients in 9 countries in North America and Europe

#### **Primary Endpoint**

Change in peak VO2 on CPET from baseline to Week 20

#### Second Endpoints

- Change in total workload during CPET from baseline to Week 20
- Change in ventilatory efficiency (VE/VCO2 slope) during CPET from baseline to Week 20
- Change in average daily activity units measured over 2 weeks from baseline to Week 18-20 by accelerometry

Study Plan			
Total Countries Planned	9		
Active Countries	4		
Total Sites Planned	92		
Activated Sites	69		
Total Patients Planned	270		

#### **Key Design Points**

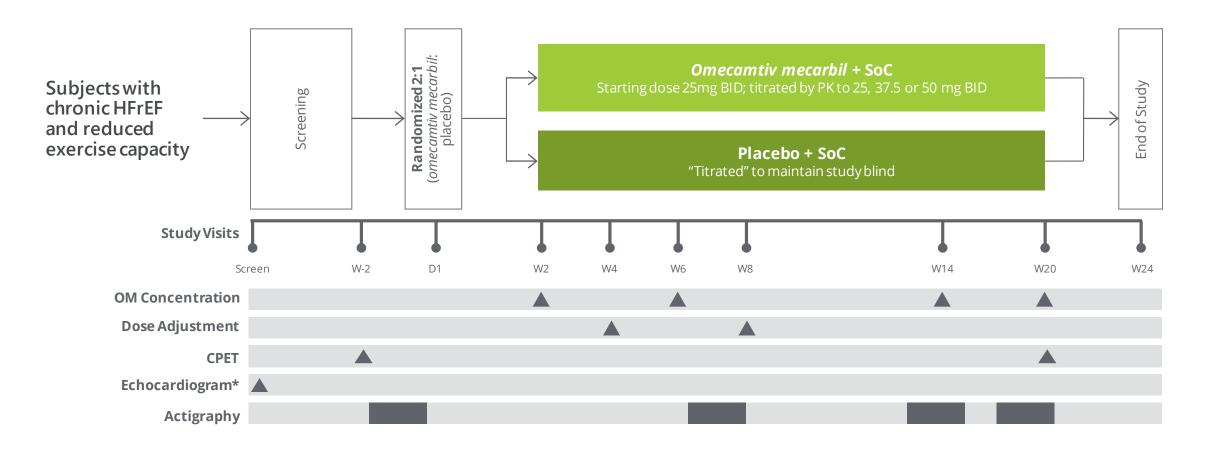
- Designed to enroll approximately 270 patients
- 90% power
- Patients must have LVEF ≤35 percent, be NYHA heart failure class II or III, and have reduced exercise capacity
- Patients randomized 2:1 to omecamtiv mecarbil

VO2 = Oxygen Uptake; CPET = Cardio-Pulmonary Exercise Testing; VE = Ventilatory Efficiency



### **Clinical Trial Overview**





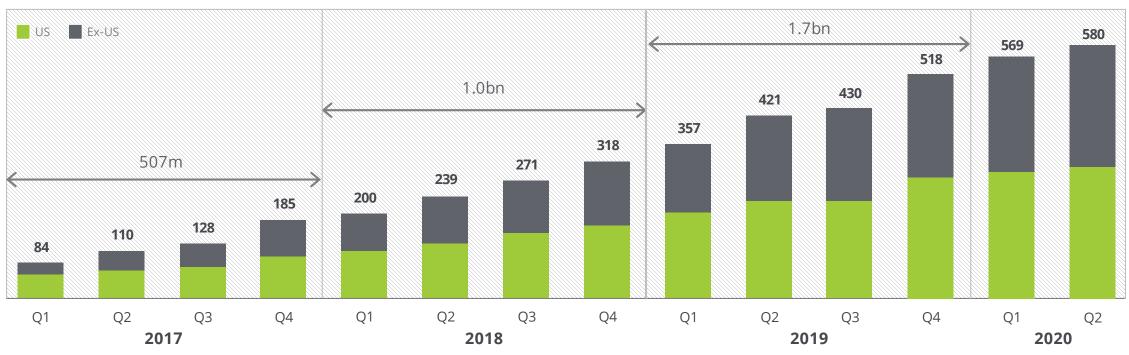
\*Screening echocardiogram is not required if an appropriate LVEF assessment has been performed within one year

### Cytokinetics

### Commercial Opportunity for New Heart Failure Therapy

\$1.7B sold in 2019; Q1 2020 sales increased 62% year over year

Entresto® Global Product Sales (M)



\*As with all products in Phase 3, the product profile achieved by omecamtiv mecarbil in GALACTIC-HF is required to provide a better understanding of the expected revenue. Source: Novartis public quarterly results presentations

### Cytokinetics

## Commercial Readiness for Omecamtiv Mecarbil

#### Multiple workstreams in progress to prepare for successful commercial launch



## CK-274: Next-In-Class Cardiac Myosin Inhibitor

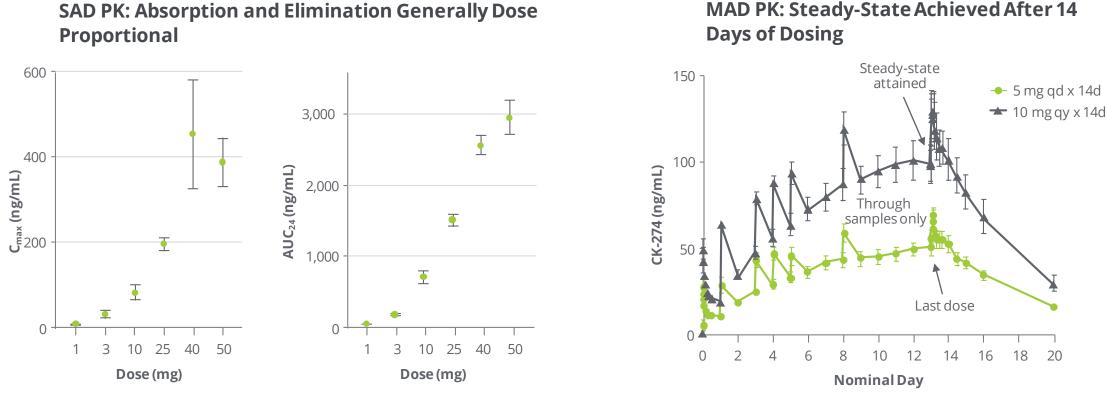
#### Potential treatments for patients with HCM



- Discovered by company scientists independent of collaborations
- Selective allosteric inhibitor of cardiac myosin
- No inhibition of smooth muscle myosin observed
- Potential *in vivo* pharmacodynamic advantages related to distinctive binding site
- Optimized to minimize potential drug-drug interactions
- High oral bioavailability observed across pre-clinical species
- Clear pharmacokinetic/pharmacodynamic (PK/PD) relationship observed
- Shallow exposure-response relationship
- Projected once daily dosing to reach steady state in patients expeditiously
- Goal: Enable flexible and convenient dose optimization in humans as may contribute to its efficacy and safety profile

## SAD & MAD Results Support Progression to Phase 2

#### Phase 1: CK-274 was well tolerated in healthy participants, no SAEs\*



\*No SAEs and no clinically meaningful changes in vital signs, ECGs, or laboratory tests

Data points represent mean ± standard error of the mean

Cmax = maximum drug plasma concentration; AUC = area under the plasma concentration curve; SAD = single ascending dose; d = day; qd = once daily

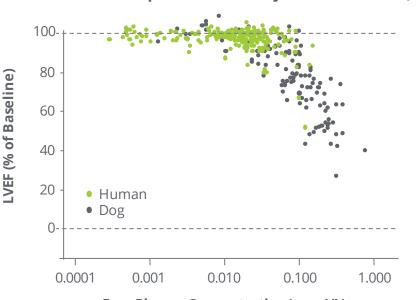
## CY 6011: MAD Pharmacokinetic Parameters

### Half-Life of CK-274 at Steady-State was ~81 hours (3.4 days) On Average

ean	Dose (n)	5 mg (6)	7.5 mg (6)	10 mg(6)
Geometric Mean CV)*	C <sub>max</sub> (ng/mL)	69 (23.2%)	148 (39.5%	141 (19.7%)
ieome V)*	t <sub>max</sub> (h)	2.75 (1.5–4)	1.0 (0.5–5)	2.5 (0.5–3)
	AUC <sub>24</sub> (ng•h/mL)	1,321 (23.0%)	2,518 (25.8%)	2,631 (22.8%)
PK Parameter, (%	t <sub>1/2</sub> (h)	86.3 (11.9)	76.9 (14.5)	79.7 (14.1)
РК	AR	4.71	4.5	4.79

#### Shallow Exposure-Response Relationship Observed Preclinically Appears to Have Translated to Humans, May Enable Flexible Dose Optimization in Humans

PK/PD Relationship of CK-274 for Ejection Fraction (LVEF)



Free Plasma Concentration (µmol/L)

Graphs show LVEF as a function of exposure; data points represent observed values in dogs and humans.

Decrease in LVEF as function of exposure is similar in humans and dogs.

\*Except data for tmax shown as median (minimum-maximum), and t½ shown as the arithmetic mean (standard deviation).

AR (accumulation ratio) calculated as (AUC24 on Day 14 or 17)/(AUC24 on Day 1).

%CV = percent coefficient of variation; Cmax = maximum plasma concentration; AUC24 = area under the plasma concentration curve;

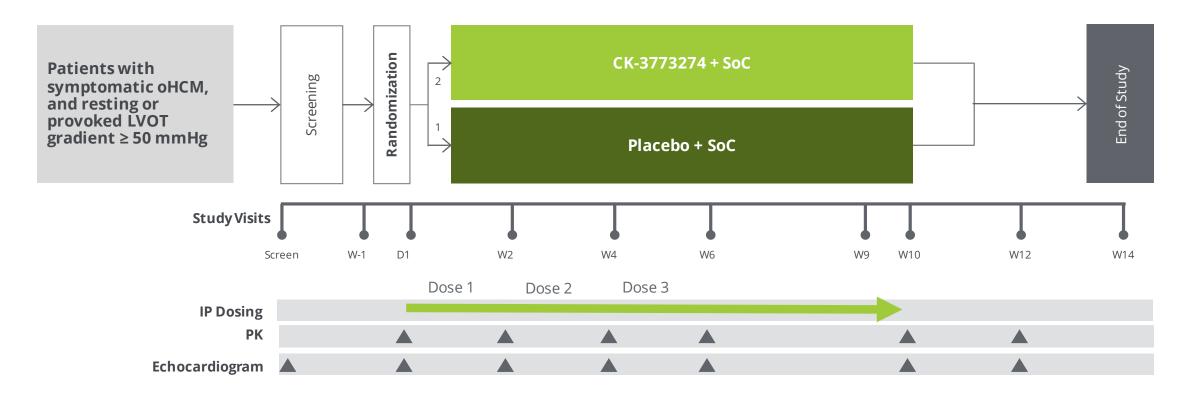
MAD = multiple ascending dose; t<sup>1</sup>/<sub>2</sub> = apparent plasma terminal elimination half-life; tmax = time to maximum observed plasma concentration.



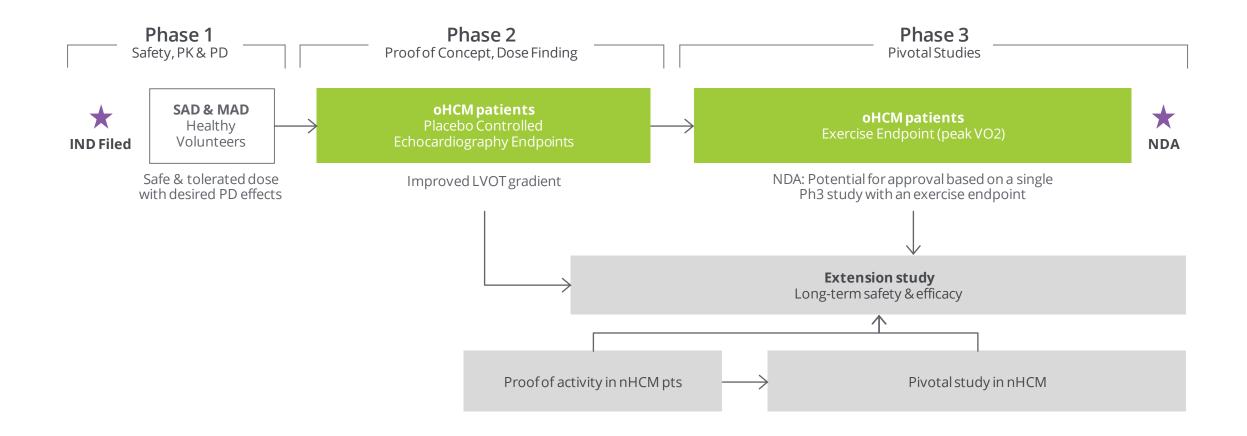
## Phase 2 Clinical Trial Design



#### Two sequential dose-finding cohorts (optional 3rd cohort)



## CK-274: Clinical Development Plan for HCM





## Obstructive HCM: Potential Phase 3 Trial Endpoints

#### CPET – Cardiopulmonary exercise testing

- Peak VO<sub>2</sub> (oxygen uptake)
- V<sub>E</sub>/VCO<sub>2</sub> (ventilatory efficiency)
- OUES (oxygen uptake efficiency slope)
- NYHA class
- Echocardiographic parameters LVOT gradient, LVEF, LVFS, GLS
- **Biomarkers** NT-proBNP, Troponins
- PROs Patient-Reported Outcomes
  - PROMIS scores Dyspnea, Fatigue, Physical Function
  - HCM-specific instruments currently being validated



## Non-Obstructive HCM: Human Model of HFpEF Subgroup nHCM patients with similarities to subgroups of HFpEF patients with hypercontractility

#### Symptoms and Pathophysiology are Similar in Both Conditions

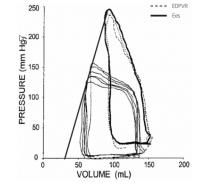
Symptoms	Pathophysiology	
Dyspnea	Increased Contractility	
Exercise Capacity Diminished	Left Ventricular Hypertrophy	
Peripheral Edema	Diastolic Dysfunction	
Fatigue	Increased LV Filling Pressure	

TCD (mL)

nHCM

**HFpEF** 

Subgroup





#### Novel Approach Addresses Multiple Unmet Patient Needs **No FDA Approved Therapies**



## CV Franchise: Building to Improve Patient Healthspan

Build leading CV commercial organization supported by Amgen collaboration	Successfully launch, <i>omecamtiv mecarbil</i> , for patients with HFrEF	Leverage commercial organization to bring CK-274 & other molecules to market	Expand CV pipeline internally and through novel partnerships	Improve CV patient healthspan
	•			

#### **Today**

Leverage deep **leadership in cardiac muscle biology**, to develop and commercialize innovative medicines for CV disease Meaningfully **improve the healthspan of CV patients** with an initial focus on HFrEF and HCM

Tomorrow

## Building Synergistic Commercial Capabilities

#### **Building Today...**

Building commercial organization focused on hospitalized CV patients and HCPs to optimize opportunity for *omecamtiv mecarbil* 

- Leverage funding from Amgen collaboration
- Cultivate advocacy with CV patients and HCPs

#### **To Lead Tomorrow**

Establish Cytokinetics as a CV leader by leveraging commercial capabilities for future product launches

- Significant overlap between HFrEF & HCM accounts
- Simultaneously gain experience in HFrEF & HCM



IQVIA HPD – Q3'18 – Q2'19



#### Sarcomere Directed Drug Development

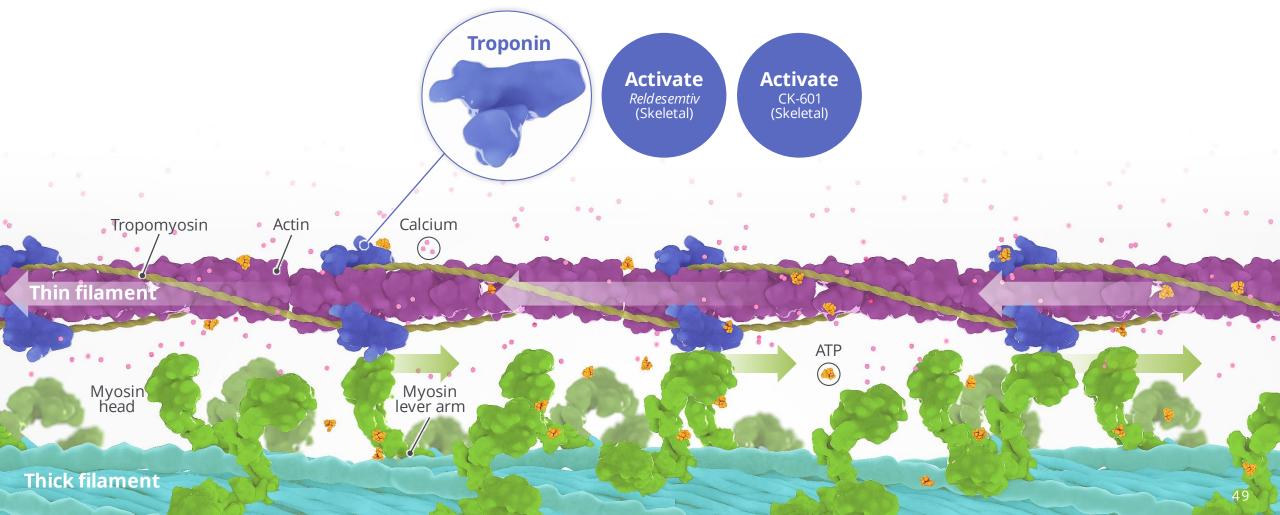
## **SKELETAL MUSCLE**

*Reldesemtiv* CK-601



#### Sarcomere Directed Drug Development Skeletal muscle

The sarcomere is a molecular structure found in skeletal and cardiac muscle that enables skeletal myocytes to contract and generate force



## Phase 2 Clinical Trial in ALS

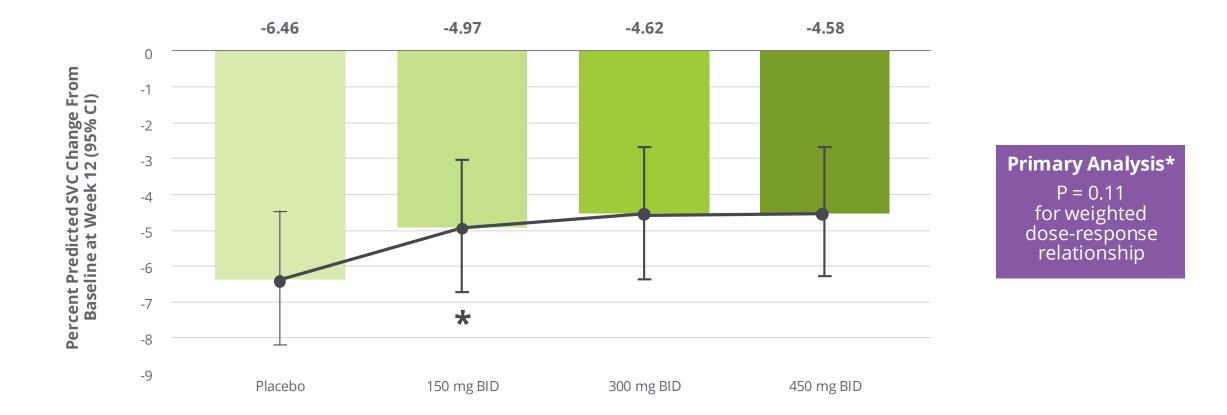


#### Results presented at American Academy of Neurology 2019



#### Primary Endpoint: SVC Change from baseline in percent predicted SVC at week 12





\*Based on Mixed Model for Repeated Measures (MMRM) with the contrasts of (-5, -1, 3, 3) for placebo, reldesemtiv 150 mg, 300 mg and 450 mg BID, respectively

## Change From Baseline: All Active vs Placebo\*

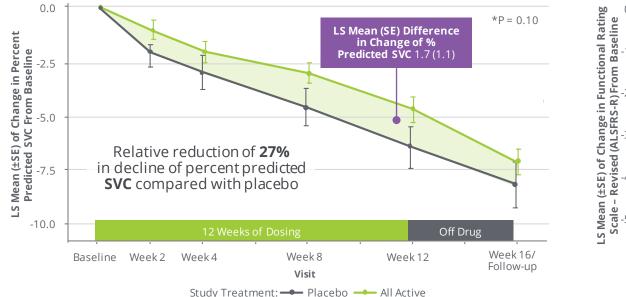


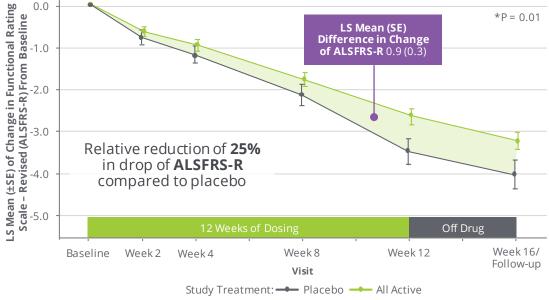
#### Results support progression to potential Phase 3 clinical trial

#### SVC Change From Baseline

(All Active vs Placebo)

ALSFRS-R Change From Baseline (All Active vs Placebo)





\*post hoc analysis

FORTITUDE-ALS did not achieve statistical significance, but patients on all dose groups of reldesemtiv declined less than patients on placebo

## Subgroup Analyses\*



#### **Percent Predicted SVC**

	No. of Patients (pbo <i>l reldesemtiv</i> )	LSM Difference (95% Cl)	Estimate	<i>P</i> value
Percent predicted SVC at baseline				
<80	38/102	<b>⊢_</b> ∎i	1.037	0.5935
≥80	52/187		2.135	0.0834
ALSFRS-R total score at baseline				
<median (38.0)<="" td=""><td>43/118</td><td> -■1</td><td>2.886</td><td>0.1.41</td></median>	43/118	-■1	2.886	0.1.41
≥Median (38.0)	47/171	<b>⊢</b> ₽1	0.451	0.7146
ALSAQ-5 total score at baseline				
<150	49/159	⊢≢⊸≀	0.568	0.6689
≥150	41/130	■	3.489	0.0287
Anatomic site of disease onset				
Limb	73/234	┝╴═╶┥	2.309	0.0448
Bulbar	17/55	<del> </del> − +	-0.027	0.9923
Time since ALS symptom onset				
<2 Years	50/188	<b>⊢</b> ₽1	0.530	0.7211
≥2 Years	40/101	■	3.640	0.0094
Time since ALS diagnosis				
<1 Year	65/210	⊢⊫−₁	0.819	0.5263
≥1 Year	25/79		4.237	0.0172
<6 Months	39/130	⊢ <mark>↓</mark> ■−−+	1.230	0.4538
≥6 Months	51/159	₩-₩1	2.285	0.1024
Pre-study rate of disease progression				
(ALSFRS-R total score reduction per month)				
1 <sup>st</sup> tertile ≤(0.3667)	29/107	- <b> </b> ■	0.663	0.6361
$2^{nd}$ tertile > (0.3667) - (0.6673)	35/94		2.960	0.0976
3 <sup>rd</sup> tertile (0.6673)	26/88		1.620	0.4597
	1 - 4			
	-15 -1	0 -5 0 5 10	) 15	
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	Favors Plac	ebo Favor	's Treatment	

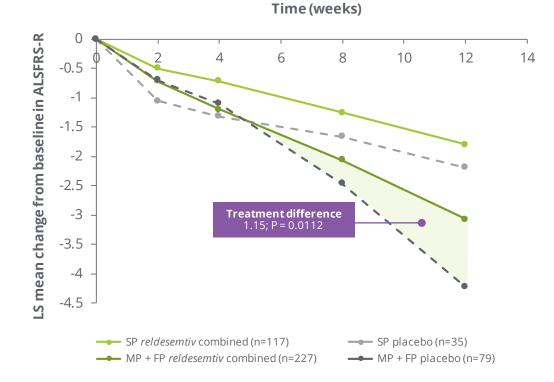
#### **ALSFRS-R Total Score**

	No. of Patients (pbo <i>l reldesemtiv</i> )	LSM Difference (95% Cl)	Estimate	<i>P</i> value
Percent predicted SVC at baseline				
<80	43/109	<b>-</b>	1.588	0.0089
≥80	57/196	⊢⊨	0.264	0.5296
ALSFRS-R total score at baseline				
<median (38.0)<="" td=""><td>48/129</td><td>k<b>-</b>∎1</td><td>1.107</td><td>0.0585</td></median>	48/129	k <b>-</b> ∎1	1.107	0.0585
≥Median (38.0)	52/176		0.685	0.0987
ALSAQ-5 total score at baseline				
<150	52/164	⊢⊨	0.266	0.5025
≥150	48/141		1.598	0.0055
Anatomic site of disease onset				
Limb	80/245	■1	0.872	0.0279
Bulbar	20/60	⊢⊢■−−1	0.861	0.2194
Time since ALS symptom onset				
<2 Years	56/199	=	1.422	0.0025
≥2 Years	44/106	►+=1	0.475	0.3439
Time since ALS diagnosis				
<1 Year	71/225	■	1.123	0.0101
≥1 Year	29/80	►- <del> </del> ■1	0.359	0.5350
<6 Months	42/137		1.359	0.0154
≥6 Months	58/168	H-=-1	0.566	0.1820
Pre-study rate of disease progression				
(ALSFRS-R total score reduction per month)				
1 <sup>st</sup> tertile ≤(0.3667)	32/110		0.389	0.4298
$2^{nd}$ tertile > (0.3667) - (0.6673)	38/99		0.987	0.0665
3 <sup>rd</sup> tertile (0.6673)	30/96		1.733	0.0177
	-5 -	2.5 0 2.5	5	
	-5 -	2.5 0 2.5	5	
	E	- h		
	Favors Place	ebo Favor	's Treatmen	[

\*FORTITUDE-ALS did not achieve statistical significance, but patients on all dose groups of *reldesemtiv* declined less than patients on placebo

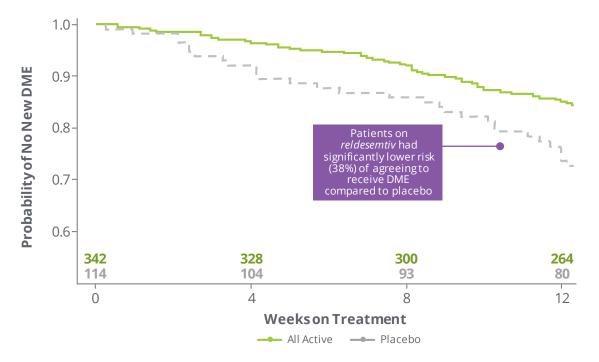
## Post-Hoc Analyses Inform Potential Path Forward FORTITUDE

#### Change From Baseline in ALSFRS-R by Progressor Tertiles

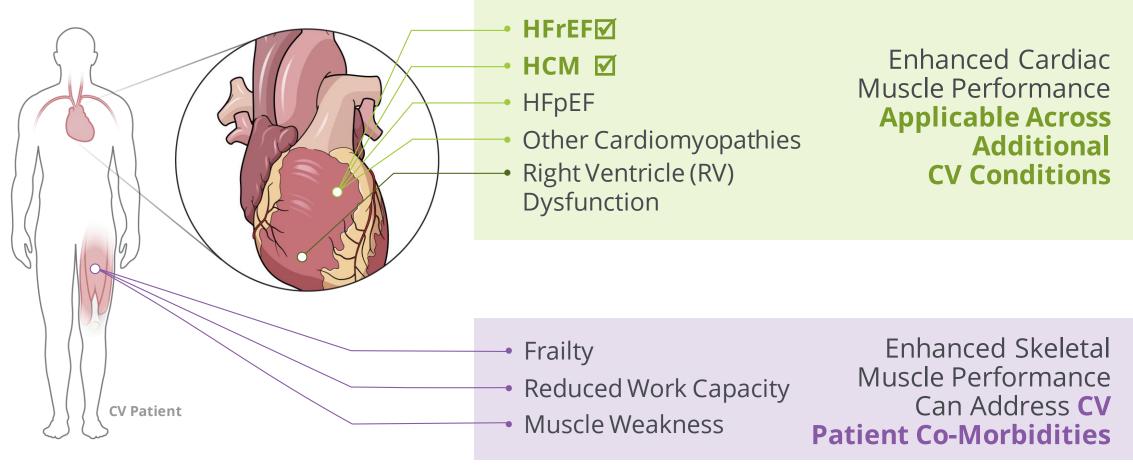


#### Probability of No New DME\* Over Time With Treatment With *Reldesemtiv*

DME (Durable Medical Equipment): Manual wheelchair, power wheelchair, NIV, Augmentative Language Device, PEG



### Convergence of Verticals Addresses CV Conditions & Co-Morbidities

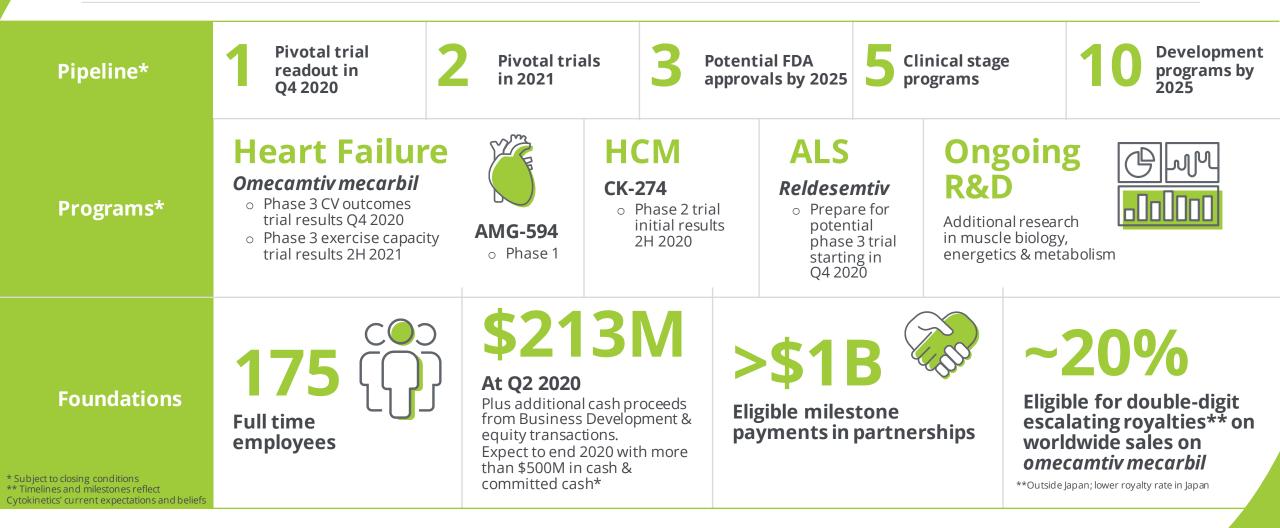


Sarcomere Directed Therapies

# **CORPORATE PROFILE**



## We're Up To The Challenge



## Cytokinetics Financing History

				Linfuquet	- II	n millions
				Upfront Cash, Option, & Milestones Reimbu	R&D	
		Financing	Equity	& Milestones Reimbu	rsement	Total
	Private Investors (VCs)		\$116			\$116
	IPO		\$94			\$94
Investors	Public Post-IPO/Other		\$609			\$609
Investors	Term Loan	\$45				\$45
	Convertible Debt (net)*	\$120.5				\$120.5
		\$165.5	\$819			\$984.5
	RTW		\$50	\$110		\$160
	Astellas		\$10	\$130	\$96	\$236
	Amgen		\$43	\$145	\$45	\$233
Strategic	Royalty Pharma		\$10	\$90	_	\$100
Partners	GSK		\$24	\$22	\$33	\$79
& Grants	AstraZeneca		-	-	\$2	\$2
& Grants	MyoKardia		-	-	\$2	\$2
	Global Blood		_	_	\$2	\$2
	Grants (ALS Assoc/NINDS/other)		_	\$6	_	\$6
			\$137	\$503	\$180	\$820

Capital raised: combination of strategic partners and investors

\*Net of fees and expenses

## Balance Sheet & Financial Guidance

Q2 2020 ended with approximately 2 years of cash based on 2020 guidance

#### Q2 2020 Condensed Balance Sheet

As of 6/30/2020

	in millions
	Total
Cash and investments	\$213.1
Other assets	\$19.4
Total Assets	\$232.5
Debt	\$132.4
Liability related to sale of future royalties	\$154.9
Other liabilities	\$23.3
Total Liabilities	\$310.6
Working capital	\$196.3
Accumulated deficit	-\$945.2
Stockholders' Deficit	-\$78.1
Basic Shares Outstanding	59.4

#### 2020 Financial Guidance

	in millions
	Total
Cash Revenue	\$18 - 22
Cash Operating Expenses	\$120 - 130
Net	~ \$110-115

After the quarter, Cytokinetics executed a series of transactions which contribute up to \$250 million in cash plus committed cash, as well as up to \$200 million in potential milestone payments plus royalties. Also, after the quarter, the company raised \$189 million through a public offering of common stock. Cytokinetics expects to end 2020 with more than \$500 million in cash plus committed cash, subject to closing conditions.

## Upcoming 2020 Milestones

Expect Topline Results from <b>GALACTIC-HF</b> in Q4	Expect to Complete Enrollment in Cohort 1 of <b>REDWOOD-HCM</b> , and Expect Data to Inform Cohort 2 by End of 2020	Expect to Complete Enrollment in <b>METEORIC-HF</b> in early 2021
Expect to Initiate Phase 1 Study of <b>CK-271</b> in Q3 2020	Conduct Commercial Readiness & Develop Co-Promotion Plan for <b>Omecamtiv Mecarbil</b>	Prepare for Potential Phase 3 Clinical Trial of <b>Reldesemtiv</b> in Patients with ALS

# Cytokinetics

#### Sarcomere Directed Therapies

# THANK YOU



John, diagnosed with heart failure

Jillian, diagnosed with HCM

Chuck, diagnosed with ALS