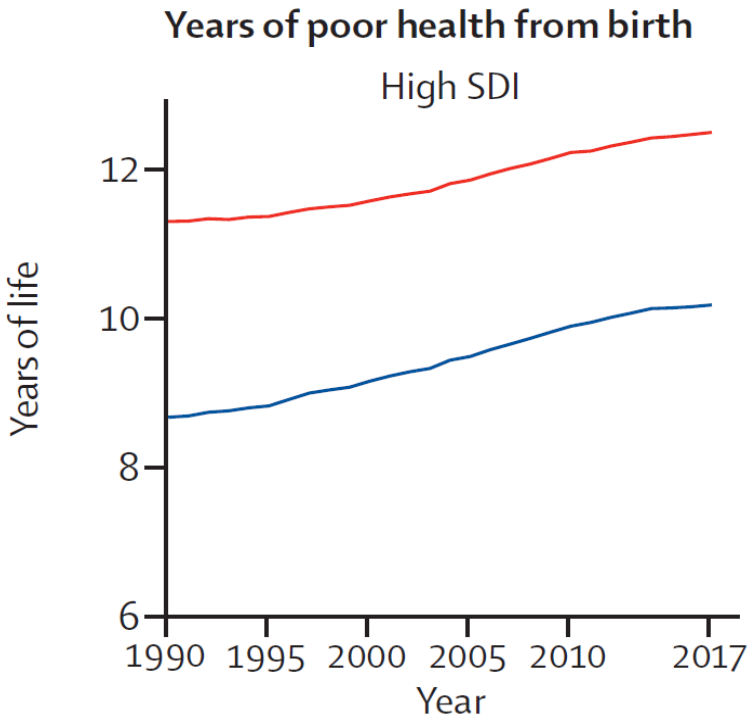
Faraday PHARMACEUTICALS

Dedicated to Living Longer Better

Corporate Presentation
February 2020

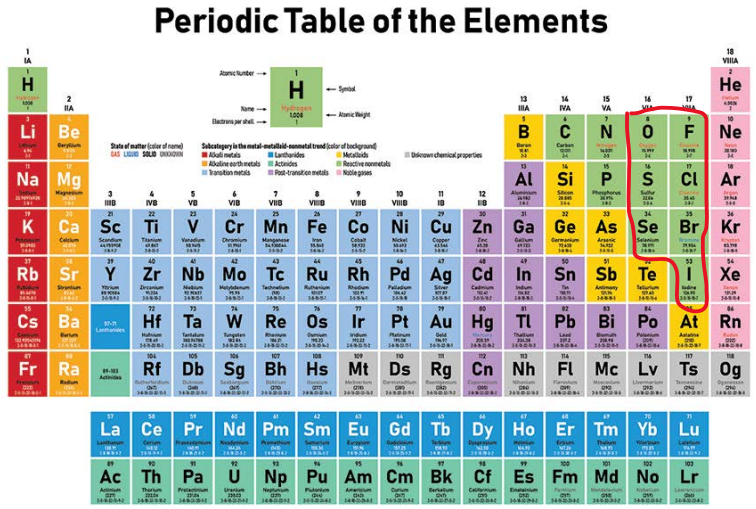
# Faraday: Our mission is to improve quality of life for patients after acute critical illness by minimizing damage to cardiac and skeletal muscle




**1990–2017: a systematic analysis for the Global Burden of Disease Study 2017 *Lancet* 2018; 392: 1859–1922**
(SDI = Sociodemographic index)

- While life expectancy is increasing, so are the years lived in poor health
- Poor cardiac and skeletal muscle function contribute greatly to many of the causes of poor QoL
- Outcomes after myocardial infarction and ICU admission are worse if cardiac and skeletal muscle are lost

# FDY-5301 – Optimal ‘Elemental Reducing Agent’ to Prevent Muscle Loss and Improve Muscle Function

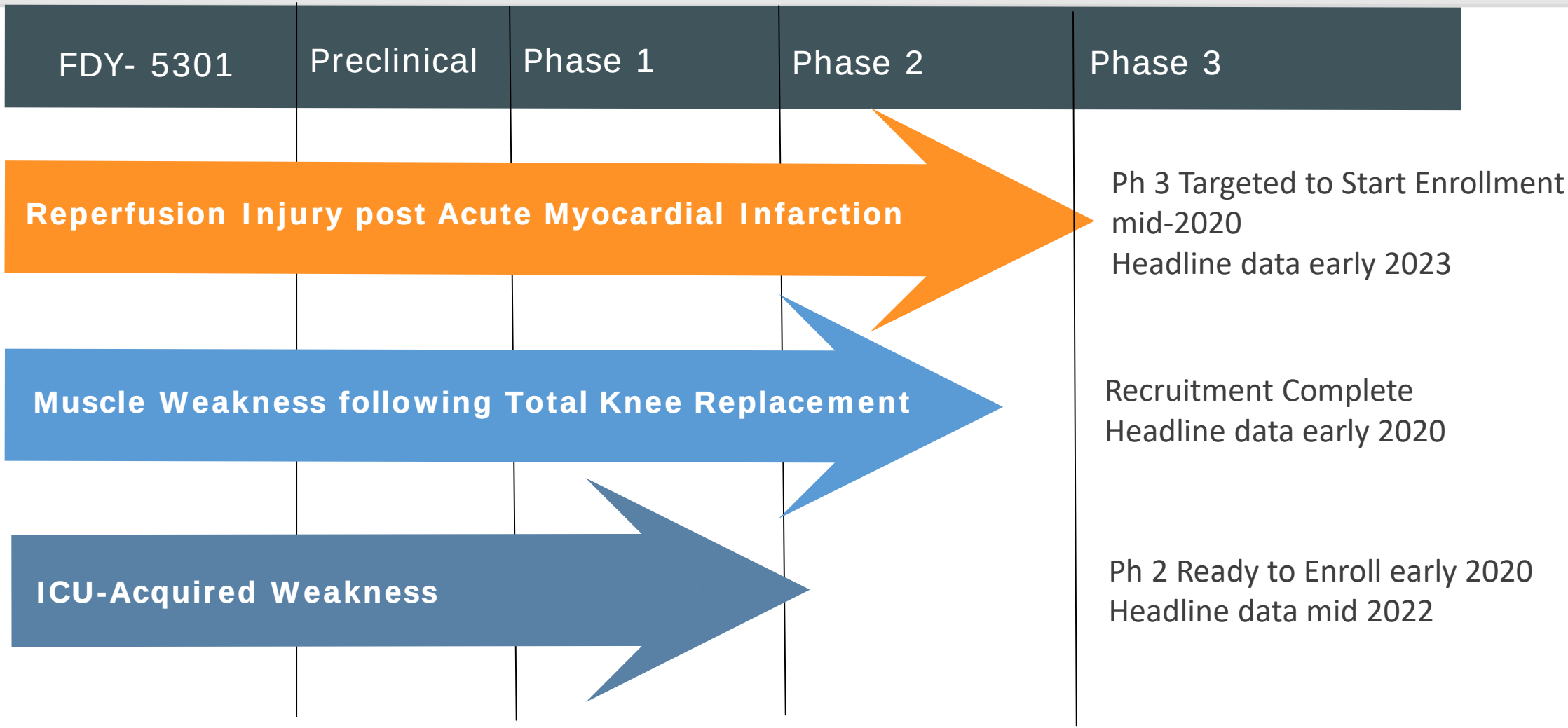



- Chalconides and Halides (e.g. oxygen, sulfur, selenium, iodine, bromine) can exist as ions which modulate electron transfer. Of these agents iodide has unique capacity to catalytically destroy hydrogen peroxide
- Formulated, patented therapeutic, contains Sodium Iodide
- Given by I.V. bolus injection in single or repeated doses
- First-in-Class treatment approach

# Faraday – Improving outcomes of critical and chronic illness

- Lead product candidate – FDY-5301
  - Phase 3 in preparation: Reperfusion injury following heart attack
  - Phase 2 recruitment completed: Muscle weakness following total knee replacement
  - Phase 2 ready: ICU-acquired weakness following trauma
- Significant, untapped market opportunity
  - Multiple indications each with >$500m global peak sales potential
- Experienced leadership team with proven drug development track record
- $59M raised to date from prominent investors:
  - Arch Venture Partners, Polaris Partners, WRF, Osage University Partners, The Jagen Group, 5AM Ventures
- Seeking series C to support pivotal trial, transition to IPO

# Product Portfolio – 3 Programs in late- to mid-stage trials with $40M spent to date



# Leadership Team

**Stephen Hill, MD**
*Chief Executive Officer*
*Targacept, Solvay, ArQule, Roche*
30+ years biopharma clinical development, research and management experience, including multiple NDAs

**Simon Tulloch, BA, MA (Oxon), BM, BCh, Dip Pharm Med**
*Chief Medical Officer*
*Shire, J&J, InfaCare*
30+ years R&D experience in small and large companies, across many therapeutic areas in Europe and the USA

**Shannon Wilson**
*VP, Clinical Operations*
*Nohla, Raptor, Dendreon*
20+ years biopharma experience including 11 years as head of clinical operations

**Brian Blackman**
*Chief Financial Officer*
*VLST, BN ImmunoTherapeutics, Dendreon*
20+ years finance experience and more than 15 years in biotech business operations and business development

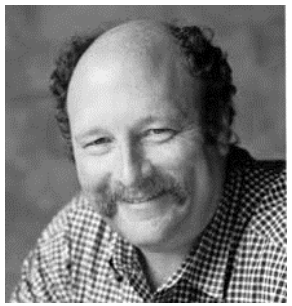
**Tressa Randall**
*VP, Regulatory Affairs*
*Nohla, Zymeworks, VentiRx, Icos, NeoRx*
30+ years R&D experience, including 25+ years of regulatory and quality in the global biopharma industry

**Patrick Rock**
*General Counsel*
*Targacept, UPMC, Drinker Biddle*
30+ years of combined law firm and in-house legal experience, including as public company senior executive, with a focus on biopharma clients

# Board of Directors

**Stephen Hill, MD**
*Chief Executive Officer*
*Targacept, Solvay, ArQule, Roche*

**Lawrence Gozlan**
*Jagen Group*
*Scientia Capital, Queensland Investment Corporation*



**Steve Gillis, Ph.D.**
*Chairman, Co-Founder*
*ARCH Venture Partners*
*Corixa, Immunex*

**Mark Roth, PhD**
*Co-Founder*
*Fred Hutch, MacArthur Fellow, Founder of Ikaria*

**Terry McGuire**
*Polaris Partners*
*Emeritus chairman of the National Venture Capital Association*

# Mechanistic considerations

- Following a period of ischemia (such as myocardial infarction, vascular obstruction or hypovolemia during trauma), restoration of blood flow to tissues is known to cause reperfusion injury due to an excess of reactive oxygen species, especially hydrogen peroxide ($H_2O_2$)
- FDY-5301 has been shown to *catalytically* destroy $H_2O_2$ and is therefore uniquely differentiated from *sacrificial* anti-oxidants such as Vitamin C which themselves become pro-oxidant over time

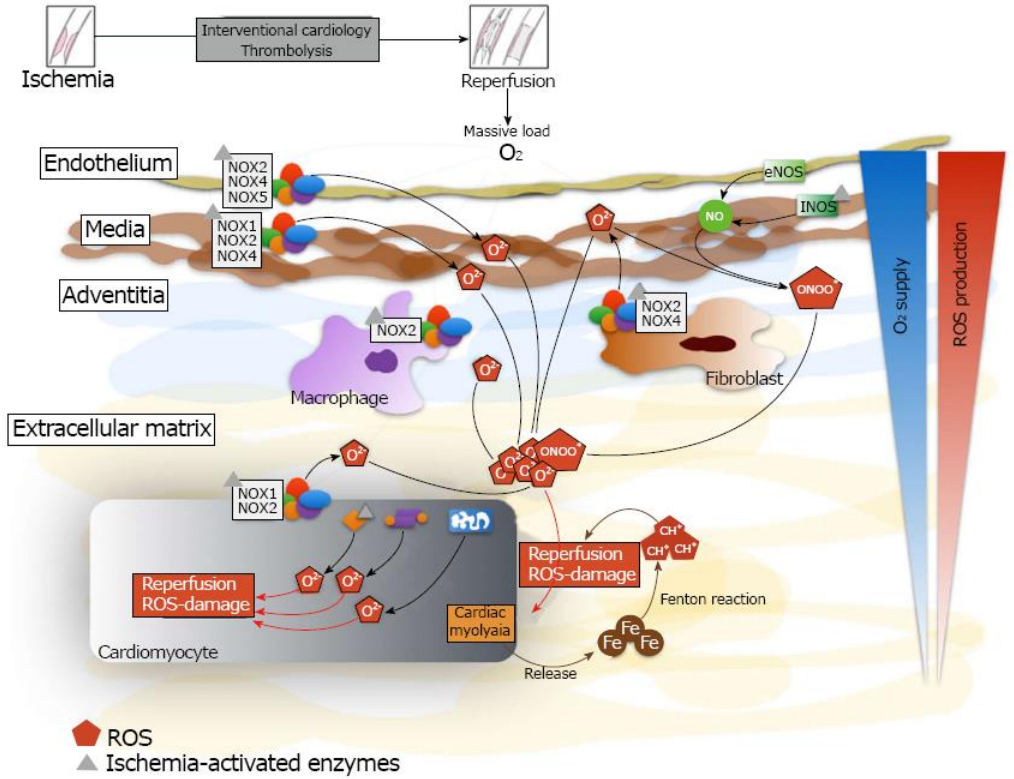



**Figure 1 Generation of reactive oxygen species and mobilization of iron after myocardial reperfusion.** There is a massive production of reactive oxygen species and iron mobilization by the different cellular types of the myocardial tissue. The iron reacts with superoxide anion to produce hydroxyl radical by the Fenton reaction. Inside cardiomyocytes, there is intracellular production of reactive oxygen species. NOX: NADPH oxidase; ROS: Reactive oxygen species; Fe: Iron; eNOS: Endothelial nitric oxide synthases.

**Myocardial reperfusion injury and oxidative stress: Therapeutic opportunities**
*World J Cardiol* 2018 September 26; 10(9): 74-86
Jaime González-Montero, Roberto Brito, Abraham IJ Gajardo, Ramón Rodrigo

# Robust pre-clinical proof of concept

- FDY-5301 protects against cardiac and skeletal muscle loss in animal models of disease
  - Diminishes infarct size and enhances function in cardiac reperfusion injury, including pig model
  - Diminishes skeletal muscle loss in mouse hindlimb occlusion injury
  - Protects against cachexia in mouse cancer model
  - Improves measures of systemic and intramuscular inflammation in mouse model
- FDY-5301 has a unique safety profile
  - No obvious manifestations of toxicity at therapeutic doses, no evidence of thyroid disruption. Mechanism relies on enhancing an endogenous physiological response to injury

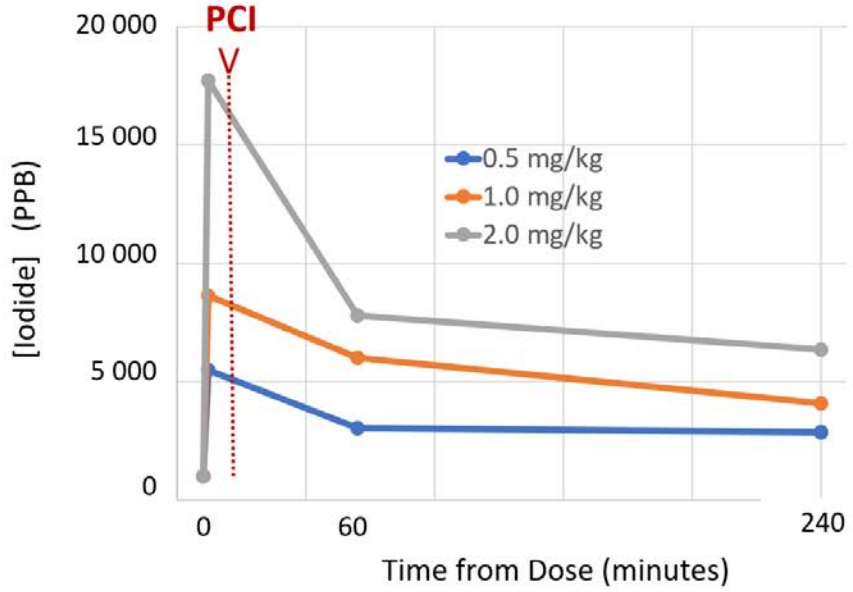
# Clinical data in acute myocardial infarction confirm safety profile with consistent efficacy signals

- Healthy volunteers (N=40)
  - No signs of toxicity in up to 10mg/kg single dose
- IOCYTE AMI-1 Phase 2 study (N=120)
  - No safety signals, in particular no evidence of potential for increased arrhythmogenic risk (primary study endpoint) at doses up to 2mg/kg
  - Encouraging signs of efficacy in IOCYTE AMI, especially at 2mg/kg, despite study not being powered for secondary endpoints
    - Reduced infarct size
    - Improved measures of cardiac function, including ejection fraction
    - Clinically meaningful improvements if replicated in adequately powered pivotal study

# IOCYTE AMI-1: Ease of administration during PCI

## FDY-5301 - Pharmacokinetics

Median Time from Dose Administration to PCI : **10** (6-19) minutes – **1000 fold increase in [iodide]**



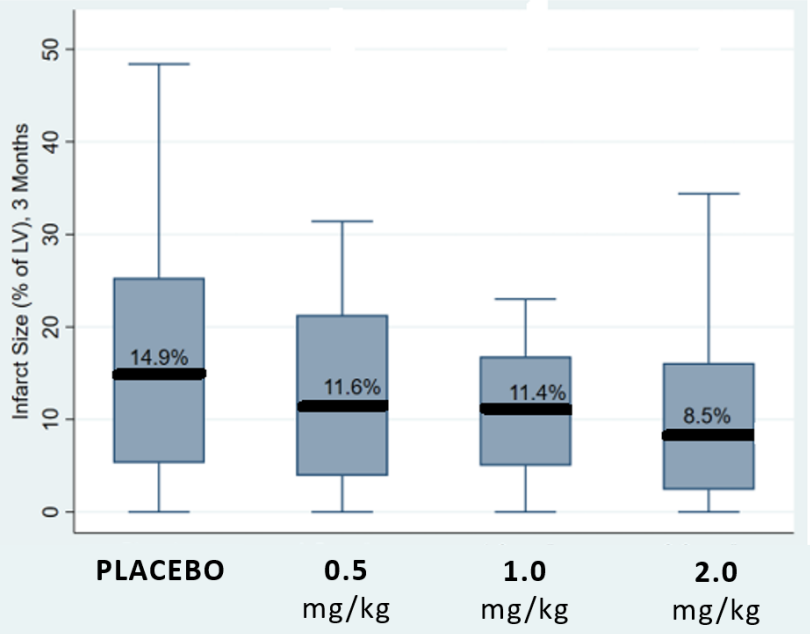


ScientificSessions.org #AHA19

Supraphysiologic (1000 fold) increases in plasma iodide achieved prior to reperfusion, without compromising normal flow of activities during percutaneous coronary re-opening, where minimizing time to reperfusion is of the essence. American Heart Association (AHA) oral presentation by Prof. Keith Channon, AHA Nov 16, 2019.

# IOCYTE AMI-1: Encouraging efficacy data: Median Infarct Size vs. dose (n=75) Interquartile ranges

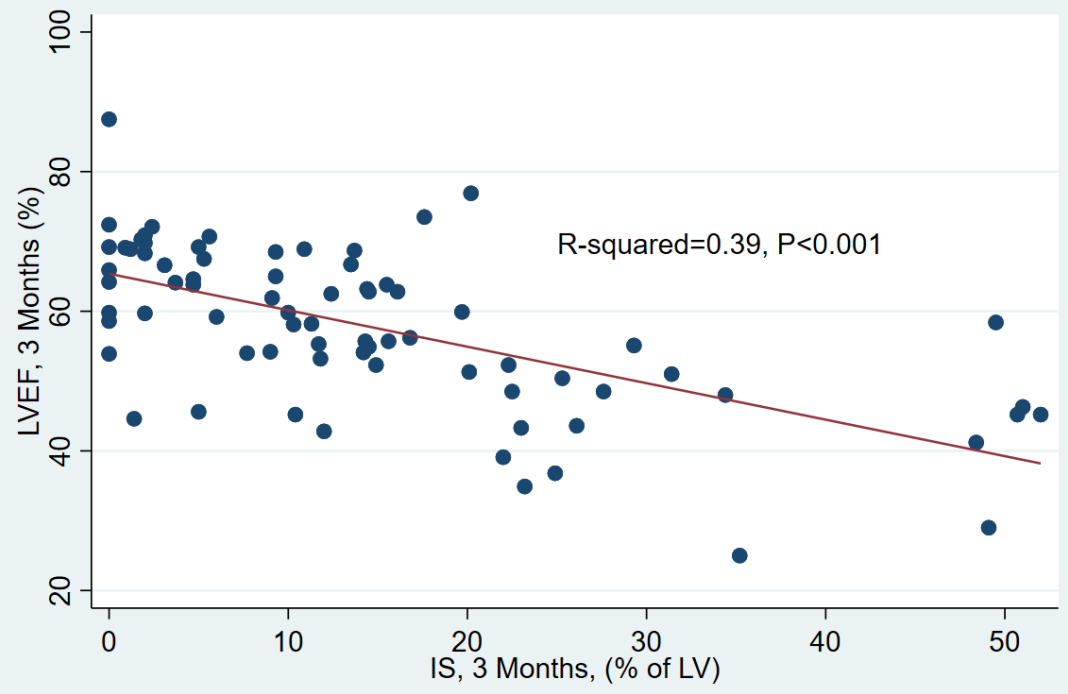
## Infarct Size at 3 months by CMR (% LV)




Trend towards reduced infarct size with increased dose. Not powered for statistical significance.

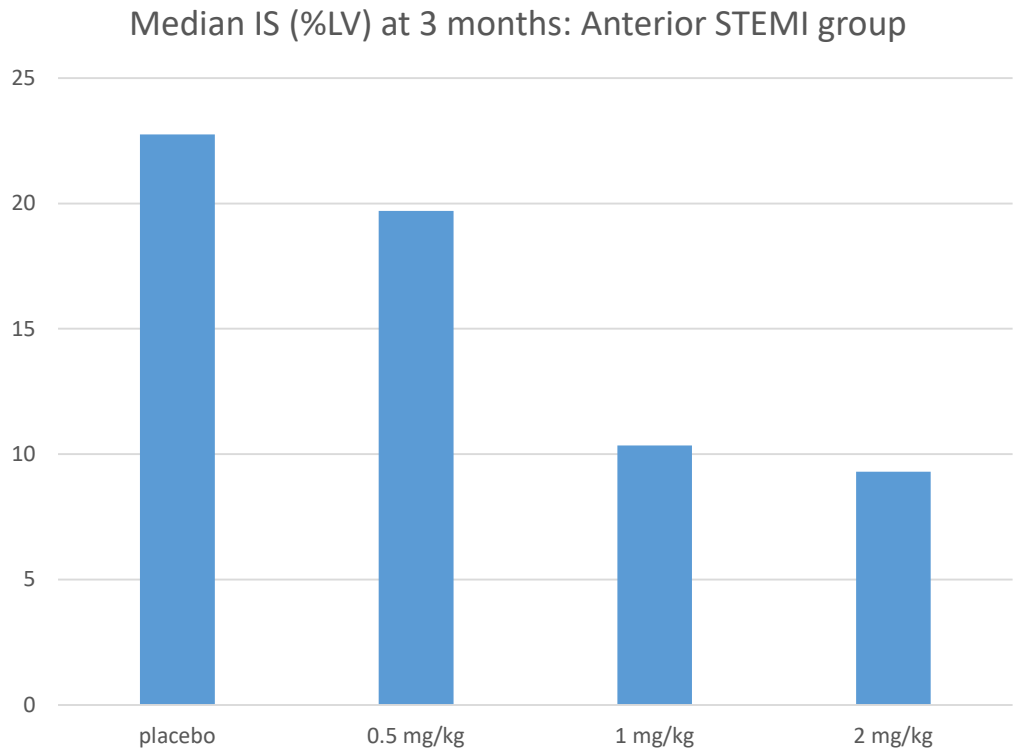
AHA Nov 16, 2019

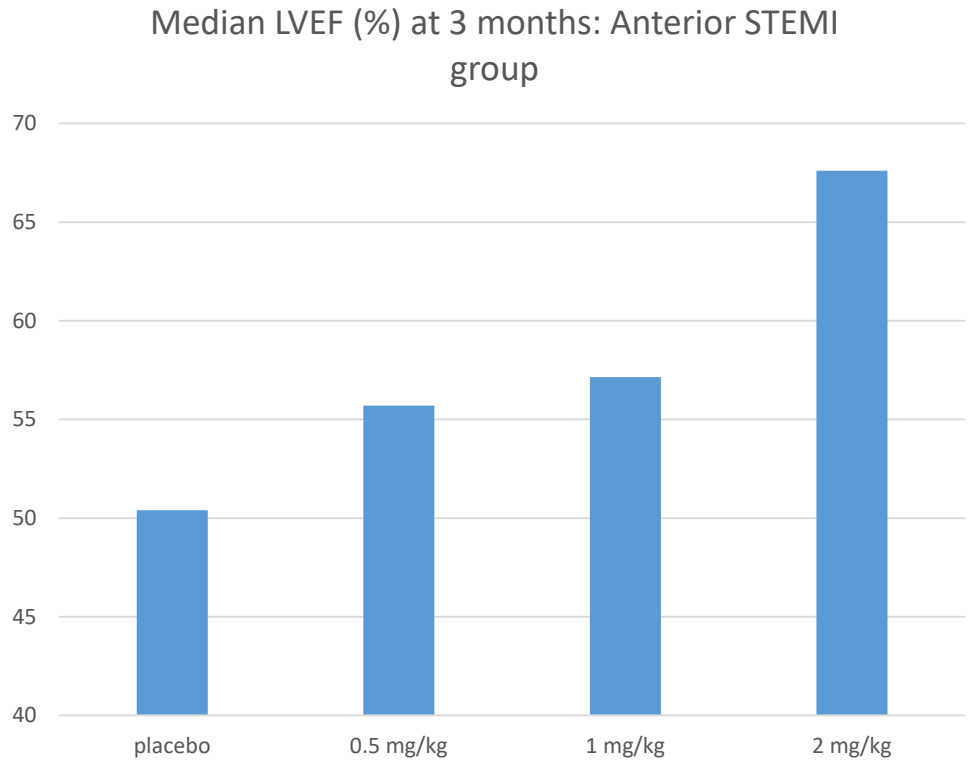
# IOCYTE AMI-1 efficacy data: strong correlation between infarct size(IS) and heart function (assessed by ejection fraction (LVEF))




Infarct size measured 3 months after treatment is correlated with LVEF. This correlation is strongest in the drug groups, suggesting that salvaged muscle is good muscle.

# IOCYTE AMI-1 efficacy data: Subset of anterior infarcts (n=30)

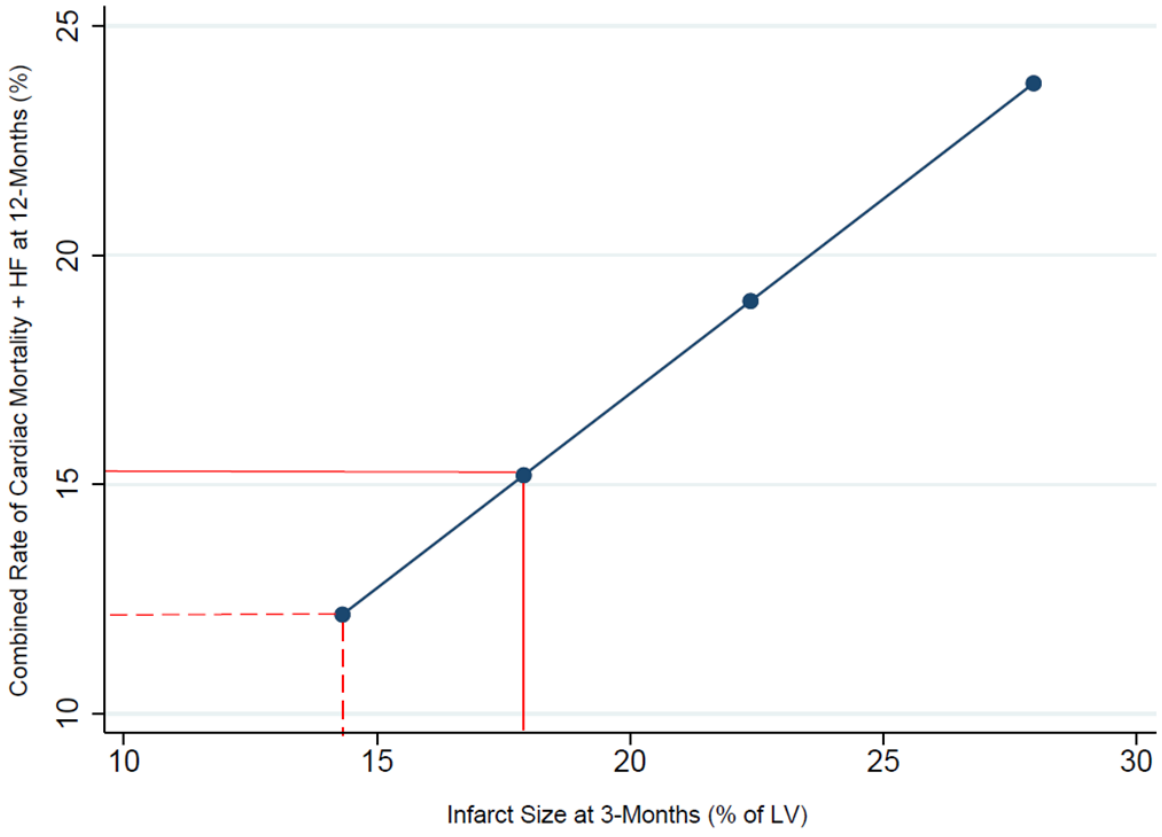


# Regulatory: Encouraging interactions with FDA to date, accepting the potential for Subpart H Accelerated Approval using infarct size as pivotal study endpoint

- SPA submission received by FDA January 22nd
- Initial feedback February 24th
- Remaining considerations:
  - Timing of confirmatory study
  - Clarification of model used to relate infarct size and outcomes
  - Statistical treatment of missing data
  - Minor comments regarding secondary analyses and definition of heart failure
- Next step: request Type A meeting (expected early April) for further clarification

# Modeling shows a linear correlation between infarct size and outcomes




- Based on an analysis of a substantial database of STEMI patients, a 20% relative reduction in infarct size correlates to a 20% reduction in combined incidence of death and heart failure at 12 months.*
- Recent studies suggest a background incidence of approximately 15%  death and heart failure for anterior infarcts.
- A 20% relative reduction in IS from 18% (average anterior infarct size) to 14% as powered in Faraday's proposed Phase 3 IS study should result in a 20% relative reduction in clinical outcomes from 15% to 12%.

* Faraday modeling; included in SPA application

# Planned pivotal registration program for Phase 3 AMI in development: Iocyte AMI-2

- Current design considerations
  - Approximately 780 subjects and 120 centers; global to optimize recruitment rate
  - Anterior first STEMI
  - Three arms: Placebo, 2 mg/kg, 4 mg/kg
  - IS by CMR at 3 months as primary efficacy endpoint
  - Post-approval confirmatory outcomes study
  - Initial IS study budget approximately $40M
  - Headline data 2023

# Planned pivotal registration program for Phase 3 AMI greatly de-risked

- Safety: Iodide is a well-characterized agent with low potential for unexpected adverse events in larger study populations
- Efficacy: No change in efficacy endpoint from Phase 2 to Phase 3 (IS--Infarct Size)
- CMC: FDY-5301 is simple and inexpensive to manufacture
- Commercial: >$300M potential in US market with pricing in line with other acute AMI care agents
- Competition: Currently there are no approved pharmacological treatments for reperfusion injury
- Regulatory: Encouraging interactions with FDA to date, accepting the potential for Subpart H Accelerated Approval using infarct size as pivotal study endpoint

# Phase 2 ICUAW trial: Iocyte ICU

- Trial design
  - 250 major blunt or penetrating trauma patients having had shock, needing ventilation
  - Three arms: Placebo, 1 mg/kg, 2 mg/kg
  - Co-primary efficacy endpoints of muscle size by ultrasound and time to organ recovery
  - Study budget approximately $15M
  - Headline data 2022

# Intellectual Property Portfolio

1. Use patent for Sodium Iodide for the treatment of reperfusion injury: Granted USA (2/12/2019), Japan, Australia, China; pending elsewhere
2. Use of Iodide for the treatment and prevention of ICU-acquired weakness: Filed globally
3. Use of iodide for the treatment and prevention of chemotherapy induced cachexia: Filed globally
4. Methods for measuring iodide in body fluids: National phase in US

# Significant U.S. Commercial Opportunity Across Multiple, Non-Competitive Treatment Settings

| Setting | Incidence (2020) | Current options for drug intervention | Estimated Benchmark Peak Sales |
|---|---|---|---|
| ST-elevated myocardial infarction undergoing PCI | 250,000[1] | N/A | $330M+ |
| TKA | 850,000[2,3] | N/A | $425M+ |
| ICUAW | 200,000[4,5] | N/A | $620M+ |


Sources:

1. GlobalData Epi Report 2016; NHDS 2007 Summary Report
2. Inacio M, et al. Projected increase in total knee arthroplasty in the United States – an alternative projection model. Osteo and Cart Vol 2017;25;1797-03.
3. Abdel M, et al. Current practice patterns in primary hip and knee arthroplasty among members of the American association of hip and knee surgeons: A Long-Term Update. J Arthroplasty 2019. 25(7 Suppl):S24-S27
4. National Hospital Ambulatory Medical Care Survey, 2016
5. Wunsch H, et al. ICU Occupancy and mechanical ventilator use in the United States. Crit Care Med 2013;41(12).

# Faraday is currently focused on acute critical care opportunities

Reperfusion injury following AMI: Phase 3 in planning
ICU-Acquired Weakness: Phase 2 in startup
Muscle weakness following Total Knee Replacement: Phase 2 recruitment completed

**Portfolio expansion opportunities may allow exploration of new indications where cachexia represents severe, chronic restrictions on activities of daily living, with poor overall prognosis, especially in oncology.**

# Faraday Progress to Date: 2015-2020

- ✓ Demonstrated broad preclinical effects in animal models
- ✓ Completed GLP-Tox studies supporting FDY-5301
- ✓ Completed Phase 1 healthy volunteer trial
- ✓ Completed Phase 2 AMI study
- ✓ Completed Phase 2 knee surgery study
- ✓ US patent granted for FDY-5301 for reperfusion injury
- ✓ AMI study, End of Phase 2 meeting, FDA, CHMP
- ✓ Pre-IND feedback ICUAW, FDA
- ✓ SPA submission for Phase 3 AMI study

# Upcoming Milestones

- Next SPA meeting with FDA: April 2020
- Headline data available Phase 2 study in TKR: Q1 2020
- First patient dosed in Phase 2 ICUAW study: Q2 2020

# Financing Targets

- Series C of $30-40M in Q2 2020
- IPO before end of 2021
- Series C and IPO fund the company through Phase 2 ICUAW and Phase 3 AMI data readouts
  - YE 2019 Cash Balance ~$21M
  - Debt proceeds of $10M will be added to Series C financing

**$M**

| Project | 2020 | 2021 | 2022 | Total |
|---|---|---|---|---|
| Run Rate | 11 | 16 | 19 | 46 |
| Ph3 AMI | 17 | 15 | 12 | 44 |
| Ph2 ICUAW | 6 | 7 | 1 | 14 |
| Total | 34 | 38 | 32 | 104 |

*Note: Run Rate in 2021 and 2022 includes repayment of debt line*

# Faraday Pharmaceuticals Summary

- Faraday is the leader in advancing elemental reducing agents to prevent cardiac and skeletal muscle loss
- FDY-5301 – Phase 3 preparation in AMI reperfusion, Phase 2 completed in total knee replacement, Phase 2 ready in ICU-acquired weakness
- Significant additional treatment applications with limited to no competition
- Multi-billion $ commercial opportunities
- Proven team to lead and execute plan
- Series C will support Phase 3 and portfolio advancement
- End goal – living longer <u>better</u>