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): July 13, 2021

IMARA INC.
(Exact Name of Registrant as Specified in its Charter)

Delaware	**001-39247**	**81-1523849**
(State or Other Jurisdiction of Incorporation)	**(Commission File Number)**	**(IRS Employer Identification No.)**

116 Huntington Avenue, 6th Floor Boston, Massachusetts	**02116**
(Address of Principal Executive Offices)	**(Zip Code)**

Registrant's telephone number, including area code: (617) 206-2020

Not Applicable
(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 (*see* General Instruction A.2. below):

☐ 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))

Securities registered or to be registered pursuant to Section 12(b) of the Act.

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, par value $0.001 per share	**IMRA**	**The Nasdaq Stock Market LLC**

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company ☒

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Item 8.01 Other Events.

From time to time, IMARA Inc. (the "Company") conducts meetings with third parties in which the Company utilizes a corporate slide presentation. A copy of the Company's current corporate slide presentation is attached as Exhibit 99.1 to this Current Report on Form 8-K. The attached presentation is incorporated herein by reference.

Item 9.01 Financial Statements and Exhibits.

Exhibit No.	Description
99.1	Corporate Presentation

SIGNATURE

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.

IMARA INC.

Date: July 13, 2021

By: /s/ Rahul D. Ballal
Rahul D. Ballal
President and Chief Executive Officer

Advancing Novel Treatments for Hemoglobin Disorders

Corporate Deck: July 2021

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Forward-Looking Statements and Disclaimer

This presentation may contain forward-looking statements within the meaning of The Private Securities Litigation Reform Act of 1995. These statements include, but are not limited to, (i) the clinical trial design and timing with respect to reporting of data from the Ardent and Forte Phase 2b clinical trials in patients with sickle cell disease and beta-thalassemia, (ii) the Company's development plans for IMR-687 in heart failure with preserved ejection fraction, (iii) the Company's beliefs regarding the strength of its clinical data, the tolerability and therapeutic potential of IMR-687 and advancement of its clinical program and (iv) financial guidance regarding the Company's projected operating expenses and sufficiency of the Company's capital resources to fund its operations into mid-2022. The words "anticipate," "believe," "continue," "could," "estimate," "expect," "intend," "may," "plan," "potential," "predict," "project," "should," "target," "will," "would" and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. Actual results may differ materially from those indicated by such forward-looking statements as a result of various important factors, including, among others: the impact of extraordinary external events, such as the substantial risks and uncertainties resulting from the impact of the COVID-19 pandemic on the Company's business, operations, strategy, goals and anticipated milestones, including its ongoing and planned research activities and ability to dose and readout data from its OLE clinical trial of IMR-687 in sickle cell disease and its Ardent and Forte Phase 2b clinical trials of IMR-687 in sickle cell disease and beta-thalassemia; the Company's ability to advance the development of IMR-687 under the timelines it currently projects, demonstrate in any clinical trials the requisite safety and efficacy of IMR-687, replicate scientific and non-clinical data in clinical trials, obtain and maintain necessary regulatory approvals, obtain, maintain and enforce necessary patent and other intellectual property protection, identify, enter into and maintain collaboration agreements with third parties, manage competition, manage expenses, raise the substantial additional capital needed to achieve its business objectives, attract and retain qualified personnel, and successfully execute on its business strategies; and other factors discussed in the "Risk Factors" section of the Company's most recent Quarterly Report on Form 10-Q, which is on file with the Securities and Exchange Commission. Any forward-looking statements contained in this presentation speak only as of the date of this presentation, and the Company expressly disclaims any obligation to update any forward-looking statement, whether as a result of new information, future events or otherwise. The Company expects that subsequent events will cause the Company's views to change.

This presentation also contains estimates and other statistical data made by independent parties and by us relating to market size and other data about our industry. This data involves a number of assumptions and limitations, and you are cautioned not to give undue weight to such data and estimates. In addition, projections, assumptions and estimates of our future performance and the future performance of the markets in which we operate are necessarily subject to a high degree of uncertainty and risk. Neither we nor our affiliates, advisors or representatives makes any representation as to the accuracy or completeness of that data or undertake to update such data after the date of this presentation.

Overview: Phase 2b Company with Clinical Proof-of-Concept in SCD

IMR-687
otential disease-modifying therapy for sickle cell disease (SCD) & β-thalassemia

- Highly selective, oral small molecule inhibitor of phosphodiesterase-9 (PDE9); Increases cGMP
- Multi-modal MOA shown to increase HbF, reduce WBC adhesion, and enable RBC maturation

Clinical POC
Completed 93 subject Phase 2a SCD trial with OLE trial ongoing

- **Phase 2a (n=93):** ~40% lower mean annualized VOC rate on IMR-687 vs. placebo
  - Significantly longer median time to first VOC on IMR-687 vs. placebo: **169 vs. 87 days** (p=0.029)
  - Lower mean annualized VOC-related hospitalizations on IMR-687 vs. placebo: **0.84 vs. 1.36 events/yr**
- **OLE (n=24):** VOC trends in Ph-2a maintained; 36% of subjects had increase in HbF ≥3% at 8 months

Next 12 months
Phase 2b data readouts at higher doses

- Interim PD readouts on track for studies in H2-2021; clinical activity analyses H1-2022
- Enrollment has been robust; 87 sites in >15 countries across trials; TDT sub-group enrollment complete
- HFpEF pre-clinical data submitted to medical meeting; in protocol development

Imara: Several Readouts Expected in Next 12 Months

Program	H2-2021	H1-2022	H2-2022	Upcoming Milestones/Events
Phase 2b Sickle Cell Disease (SCD)	Interim Data Dose/PD ★	Primary Analysis ★	Final Analysis ★	• Interim: 33 subjects @ 24 wks (dose, HbF, other PD) • Primary: 99 subjects @ 24 wks (HbF, annualized VOCs) • Final: 99 subjects @ 52 wks (annualized VOCs)
Phase 2b β-thalassemia (TDT & NTDT)	TDT Interim Dose/PD ★	TDT/NTDT Clinical Activity ★	TDT/NTDT Final Analysis ★	• Interim: 30 subjects @ 24 wks (dose, pre-transfusion Hb) • Clinical Activity: 120 subjects @ 24 wks (transfusions, PD) • Final: 120 subjects @ 36 wks (transfusions, PD)
OLE & Other	High Dose OLE Data @ Medical Meetings (ASH, EHA etc.) HV SAD/MD HFpEF protocol dev.			• OLE SCD subjects will be escalated to Ph-2b high dose • Healthy volunteer study for higher dose regimens • HFpEF clinical trial protocol in development

Imara: Experienced Leadership and BOD

Rahul Ballal, PhD, CEO
- Versant Ventures EIR, CBO Northern Biologics
- Vice President, Business Development, Flexion (NASDAQ: FLXN)

Michael Gray, MBA, CFO and COO
- CFO/COO/CBO of Arsanis (NASDAQ:ASNS), Curis (NASDAQ:CRIS)
- Director, Therapeutics Acquisition Corp. (NASDAQ: RACA)

Ken Attie, MD, SVP and CMO
- VP of Medical Research at Acceleron, developed Luspatercept
- Altus Pharmaceuticals, Insmed, Inc. and Genentech, Inc.

Lynette Hopkinson, SVP, Regulatory Affairs & Quality
- VP, Global Head of of CF Regulatory Strategy and Comm Affairs, Vertex
- Eisai, Genentech

Steve Migausky, General Counsel
- General Counsel, ArQule (NASDAQ: ARQL) (acquired by Merck)
- Vertex, WilmerHale

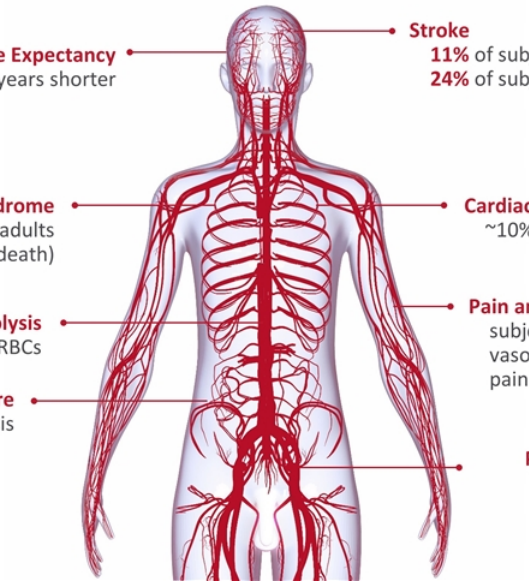
Board of Directors

- **David Mott,** Independent **(Chair)**
- **Laura Williams, MD**, Ardelyx
- **Rahul Ballal, PhD,** CEO
- **Ed Conner, MD,** CMO at Audentes (An Astellas Company)
- **David Bonita, MD,** OrbiMed Advisors
- **Mark Chin,** Arix Bioscience
- **Barbara Dalton, PhD,** Pfizer Ventures
- **Carl Goldfischer, MD,** Bay City Capital
- **Sara Nayeem, MD,** Avoro Ventures

Sickle Cell Disease (SCD): Multi-Factorial Diseases with Poor Outcomes

SCD Prevalence

~4.4 million people worldwide | ~230,000 people in the **US/EU**



Shortened Life Expectancy
Up to 20-30 years shorter

Stroke
11% of subjects experience a stroke by age 20;
24% of subjects experience a stroke by age 45

Acute Chest Syndrome
Occurs in **~50%** of adults
(a leading cause of death)

Cardiac Complications
~10% of subjects have pulmonary hypertension

Hemolysis
Destruction of RBCs

Pain and Crisis
subjects experience pain **55%** of days;
vaso-occlusive crises (VOCs) drive hospitalizations, pain medications

Kidney Failure
High mortality rate within **1 yr.** with dialysis

Priapism
Occurs in **35%** of male subjects and can result in erectile dysfunction or necrosis

The New England Journal of Medicine, Volume 339, Issue 1
BJU International, Volume 90, Issue 9
Kidney International, Volume 57, Issue 1
Annals of Internal Medicine, Volume 48, Issue 2
The New England Journal of Medicine, Volume 350, Issue 9

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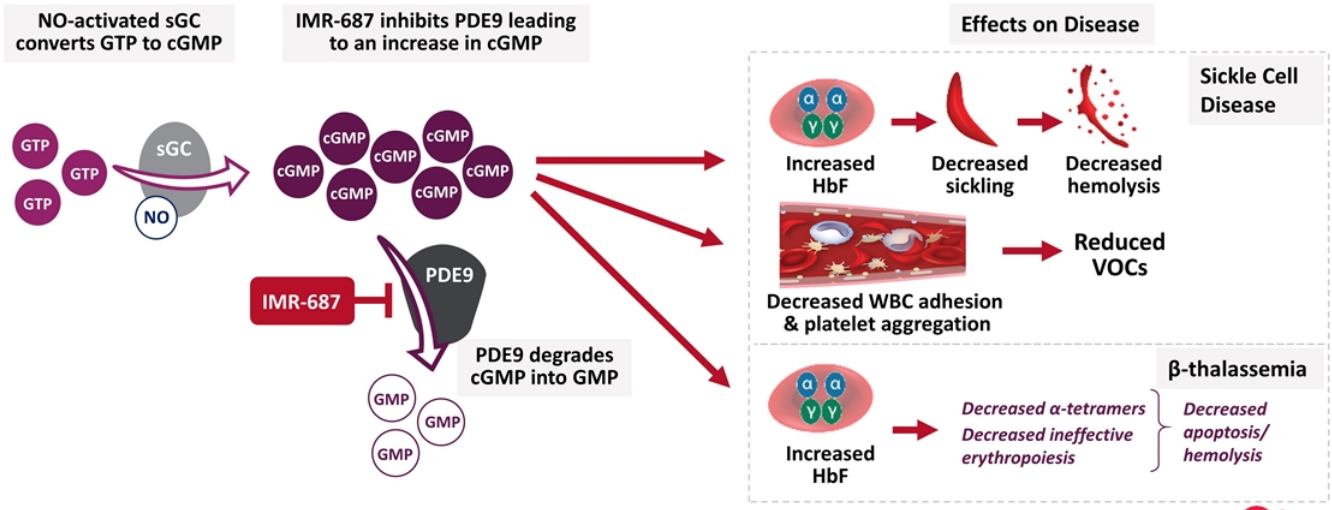
IMR-687: Multi-modal Mechanism of Action

- Nitric oxide (NO)-cGMP pathway is dysregulated in SCD; decreased cGMP levels can lead to reduced blood flow, increased inflammation and greater cell adhesion
- Inhibition of PDE9 results in increased cGMP, which can lead to increased HbF and reduced adhesion molecules

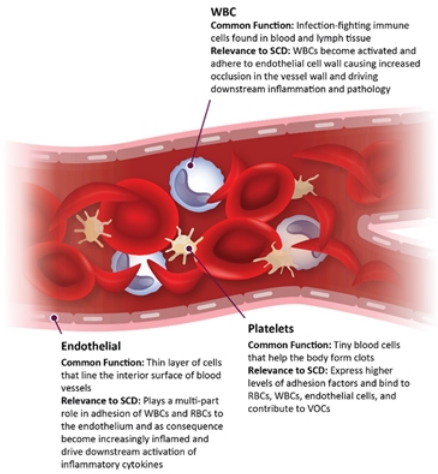


McArthur et al., Haematologica 2020;105(3):623-631

IMR-687: Potential to Impact VOCs

- Decreasing the rate of VOC episodes is an important clinical outcome measure in SCD and approvable endpoint:
  - VOCs are painful, can occur multiple times a year, and are a leading cause of ER visits, hospitalization and mortality
  - VOC pain (impacting legs, arms, back, chest, and abdomen) is difficult to manage
  - Aggregates that block blood vessels and cause VOCs consist of sickled red blood cells as well as activated white blood cells and other vascular elements
  - Targeting RBCs, adhesion and inflammation is a promising therapeutic approach to reduce VOC rate
- *In Phase 2a studies, IMR-687 was shown to decrease annualized VOC rate, lengthen time to first VOC, and decrease annualized VOC-related hospitalizations vs. placebo*

Vaso-Occlusive Crisis (VOC) Illustration
(blocked blood flow to tissues)

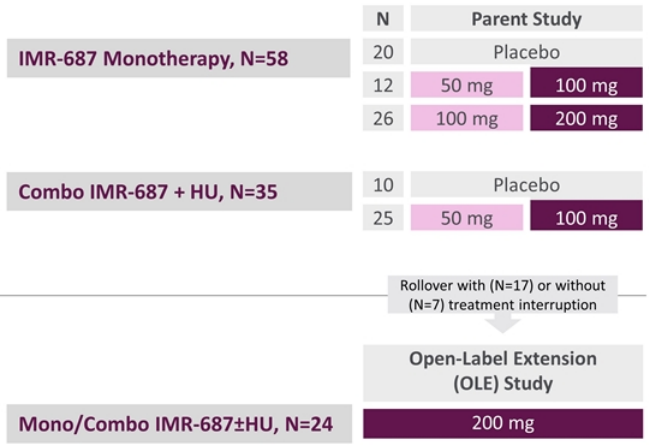


IMR-687: Phase 2a Studies in Adults with SCD

Parent Study

(N=93, study completed)

- 6-month* randomized, double-blind, placebo-controlled study, ± background hydroxyurea (HU)
- IMR-687 oral, once daily, dose escalation after 1–3 months
- **Primary objective:** Safety and tolerability
- **Secondary & exploratory objectives:** PK profile, PD biomarkers, VOCs, patient-reported outcomes



OLE Study

(N=24, study ongoing)

- N=17 subjects on monotherapy IMR-687
- N=7 subjects on combination IMR-687 + HU
- 4-year safety study
- Data presented as of 12May2021 (labs as of 29Apr2021)

*In the monotherapy cohorts, all subjects were treated for up to 6 months
In the combination cohorts, 21 subjects were treated for up to 4 months, and 14 subjects were treated for up to 6 months

Parent Study: Baseline Demographics & Disease Characteristics

	IMR-687/Placebo, Monotherapy			IMR-687 + HU/Placebo + HU	
	Placebo (N=20)	**50/100 mg** (N=12)	**100/200 mg** (N=26)	**Placebo** (N=10)	**50/100 mg** (N=25)
Age, yr, median (range)	34.5 (20, 50)	34 (19, 50)	29 (18, 51)	29 (19, 42)	30 (18, 51)
Gender, n: male/female	8 / 12	4 / 8	9 /17	1 / 9	10 / 15
Race, n: black/other or missing	19 / 1	12 / 0	25 / 1	9 / 1	24 / 1
Genotype, n (%)					
Homozygous HbSS	18 (90.0)	12 (100)	23 (88.5)	10 (100)	23 (92.0)
Sickle-β^0 Thalassemia	1 (5.0)	0	2 (7.7)	0	0
Missing	1 (5.0)	0	1 (3.8)	0	2 (8.0)
Baseline % HbF, mean (SD)	5.1 (3.74) n=19	13.9 (7.65)	9.5 (6.81) n=25	14.6 (7.68) N=9	15.6 (8.28) N=24
Hospitalizations for VOC in Prior Year, n (%)					
None	11 (55.0)	7 (58.3)	14 (53.9)	7 (70.0)	11 (44.0)
1	4 (20.0)	1 (8.3)	7 (26.9)	0	7 (28.0)
2	3 (15.0)	1 (8.3)	3 (11.5)	2 (20.0)	1 (4.0)
3	2 (10.0)	2 (16.7)	1 (3.8)	0	4 (16.0)
4	0	0	1 (3.8)	0	2 (8.0)
Missing	0	1 (8.3)	0	1 (10.0)	0

Overall: 38% of pts hospitalized for VOC in placebo groups vs. 48% of subjects in IMR-687 groups (prior year)

VOC = vaso-occlusive crisis

Parent and OLE Studies: Safety Summary

IMR-687 was well tolerated as a monotherapy and in combination with HU

- No treatment-related serious adverse events (SAEs) or treatment-related Grade ≥ 3 adverse events (AEs) in IMR-687 groups
- No clinically significant changes in laboratory safety data, ECG, or vital signs; no cases of neutropenia
- In parent study, AEs leading to treatment discontinuation occurred in 3/30 (10%) on placebo, 5/63 (8%) on IMR-687

Adverse Events Reported in ≥20% subjects in any IMR-687 Group, N (%)

	Parent Study					OLE Study
	IMR-687/Placebo, Monotherapy			IMR-687 + HU/Placebo + HU		IMR-687 ± HU
	Placebo (N=20)	IMR-687 50 mg/100 mg (N=12)	IMR-687 100 mg/200 mg (N=26)	Placebo (N=10)	IMR-687 50 mg/100 mg (N=25)	IMR-687 200 mg (N=24)
Sickle cell anemia crisis	14 (70.0)	6 (50.0)	14 (53.8)	7 (70.0)	10 (40.0)	3 (12.5)
Headache	4 (20.0)	2 (16.7)	8 (30.8)	4 (40.0)	12 (48.0)	5 (20.8)
Nausea	0	2 (16.7)	8 (30.8)	5 (50.0)	4 (16.0)	3 (12.5)
Back pain	2 (10.0)	0	6 (23.1)	2 (20.0)	1 (4.0)	4 (16.7)
Upper respiratory tract infection*	2 (10.0)	3 (25.0)	1 (3.8)	2 (20.0)	2 (8.0)	1 (4.2)
Abdominal Pain	1 (5.0)	1 (8.3)	6 (23.1)	0	4 (16.0)	2 (8.3)

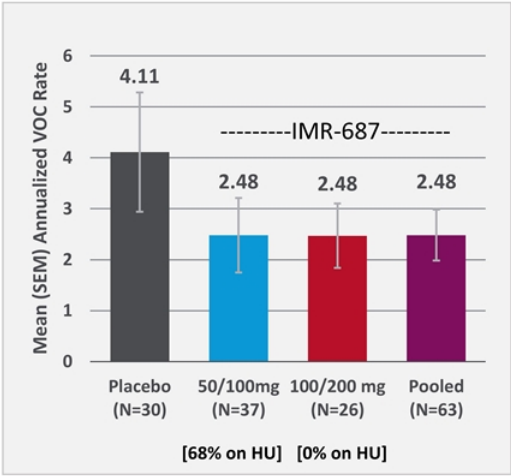
*includes nasopharyngitis

PRELIMINARY DATA

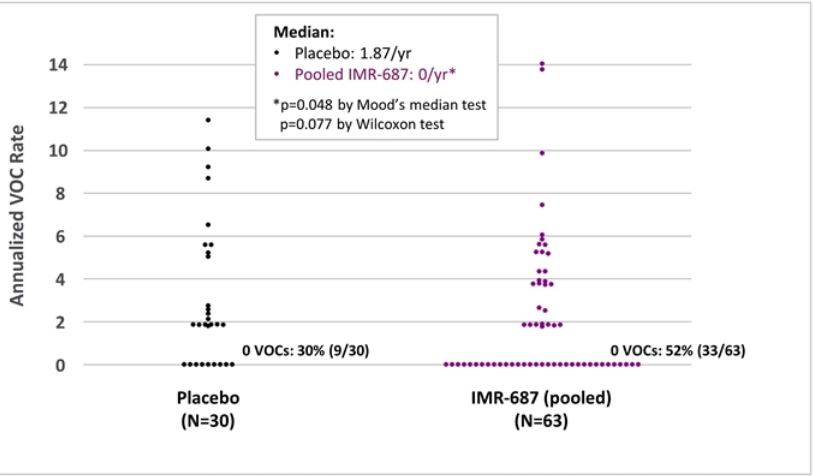
Parent Study (N=93): Annualized VOC Rate Lower on IMR-687

- **VOCs,** as captured in safety database, were less frequent on IMR-687 vs. placebo (includes subjects with/without HU):
  - *Mean annualized VOC rate:* **40% lower** in pooled IMR-687 vs. placebo groups
  - *Median annualized VOC rate:* **0/yr** in pooled IMR-687 vs. **1.87/yr** in placebo groups
  - *subjects with zero VOCs:* **52%** (33/63) in pooled IMR-687 vs. **30%** (9/30) in placebo groups

Mean Annualized VOC Rate



Individual Distribution of Annualized VOC Rate

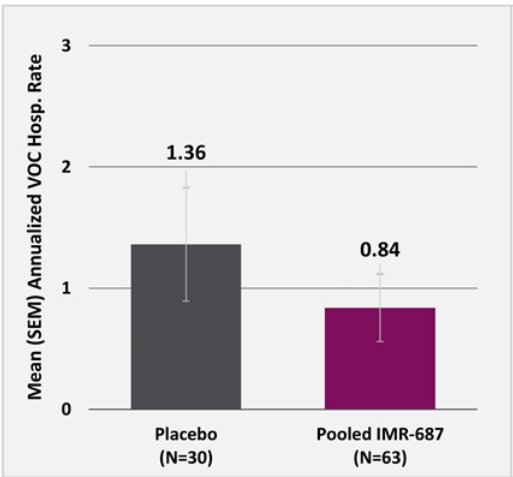


Outliers included in analysis but not shown: 33.2 in Placebo group; 20.8 in IMR-687 group

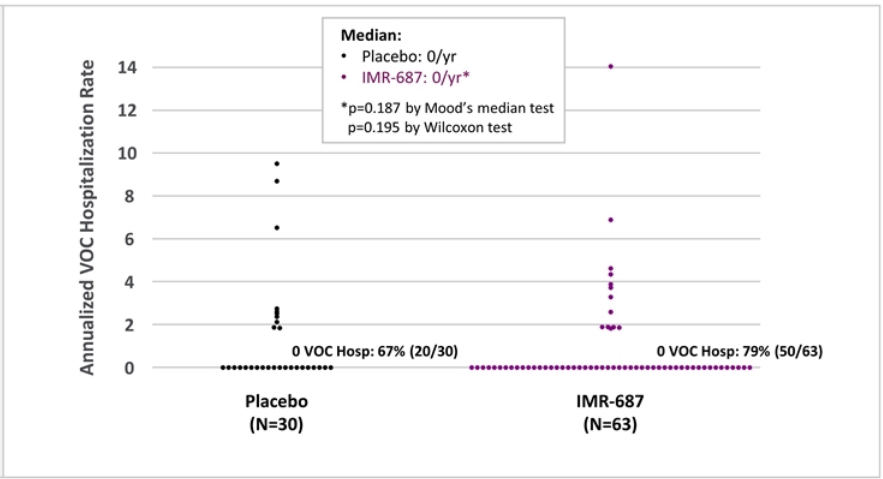
Parent Study (N=93): Annualized VOC Hospitalization Rate Lower on IMR-687

- **Historical Data:** 38% of sub. hospitalized for VOC in placebo groups vs. 48% of subjects in IMR-687 groups (previous 12 months)
- **VOC hospitalizations,** as captured in safety database, were less frequent in pooled IMR-687 vs. placebo groups (with/without HU)
  - *Mean annualized VOC hospitalization rate:* ***38% lower*** in pooled IMR-687 vs. placebo groups
  - *subjects with zero VOC hospitalizations:* ***79%*** (50/63) in pooled IMR-687 vs. **67%** (20/30) in placebo groups

Mean Annualized VOC Hospitalization Rate



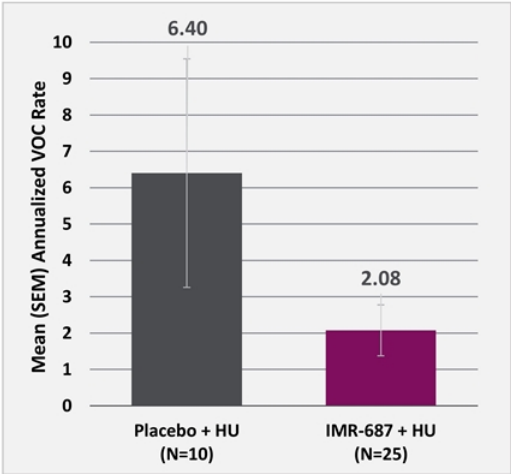
Individual Distribution of VOC Hospitalization Rate



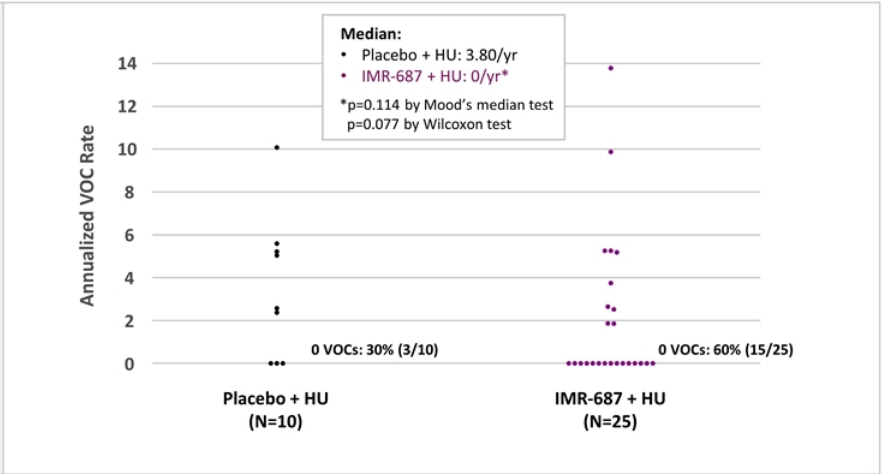
Parent Study, on HU (N=35): Annualized VOC Rate Lower on IMR-687

- **Historical Data:** 22% of subjects on placebo+HU had VOC related hospitalization in the past 12 months vs. 56% in IMR-687+HU
  - *Mean annualized VOC rate:* **68% lower** in IMR-687 + HU vs. placebo + HU group
  - *Median annualized VOC rate:* **0/yr** in IMR-687 + HU vs. **3.8/yr** in placebo + HU group
  - *subjects with zero VOCs:* **60%** (15/25) in IMR-687 + HU vs. **30%** (3/10) in placebo + HU group

Mean Annualized VOC Rate



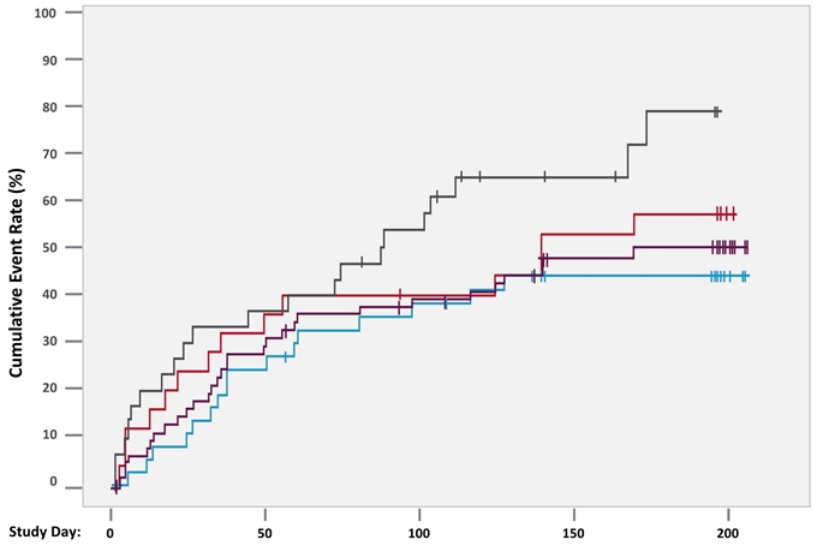
Individual Distribution of Annualized VOC Rate



Outlier included in analysis but not shown: 33.2 in Placebo + HU group

Parent Study (N=93): Time to 1st VOC Longer on IMR-687

- Kaplan-Meier analysis of time to 1st VOC; subjects censored if discontinued prior to having VOC
- Median time to first VOC for pooled IMR-687 groups was significantly longer than placebo groups, **169 days vs. 87 days,** respectively (p=0.029)

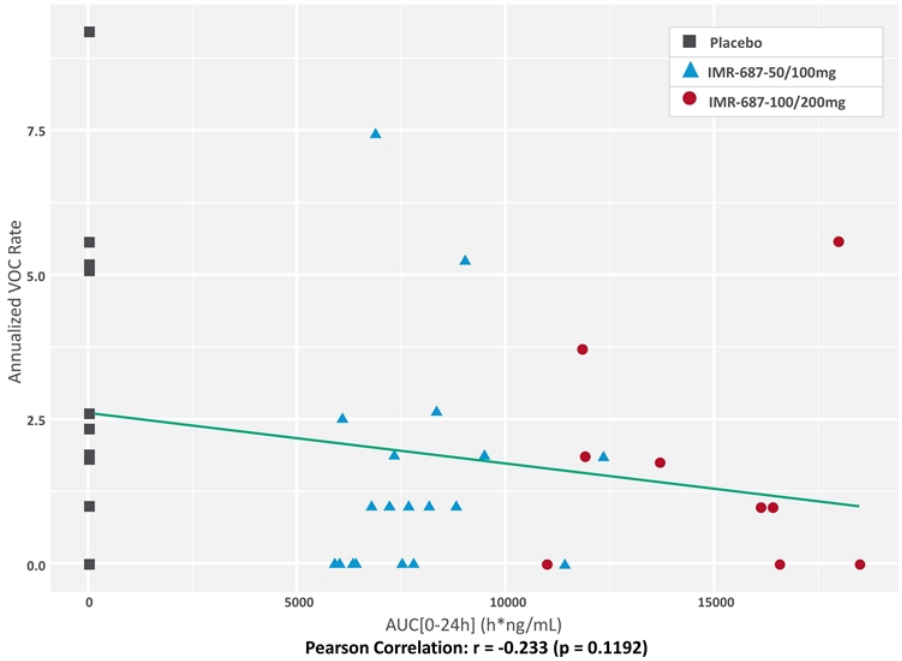


No. at risk:					
Placebo	30	19	13	6	0
IMR-687 – 50/100 mg	37	28	22	12	3
IMR-687 – 100/200 mg	26	16	14	11	2
IMR-687 – pooled	63	44	36	23	5

Pooled IMR-687 vs placebo: Log-rank p=0.029

Parent Study (N=47): Annualized VOC Rate vs IMR-687 Exposure (AUC)

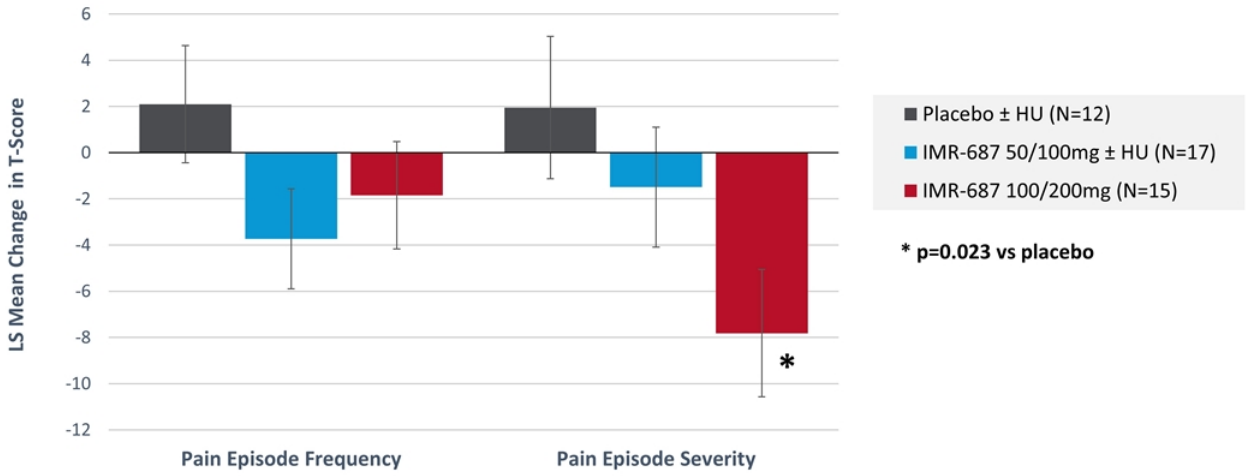
- Trend for decreased annualized VOC rate with increasing IMR-687 exposure ($AUC_{0\text{-}24h}$); higher dose has potential to further reduce VOC rate



Pearson Correlation: r = -0.233 (p = 0.1192)

Parent Study: ASCQ-Me Pain Episode Severity Reduced on IMR-687

- ASCQ-Me is an NIH validated SCD patient reported outcome (PRO) instrument
  - Two sub-domains report pain episode (VOC) frequency and severity; lower values = improvement
  - Pain episode severity score was significantly lower in favor of IMR-687 100/200mg group vs placebo (p=0.023)

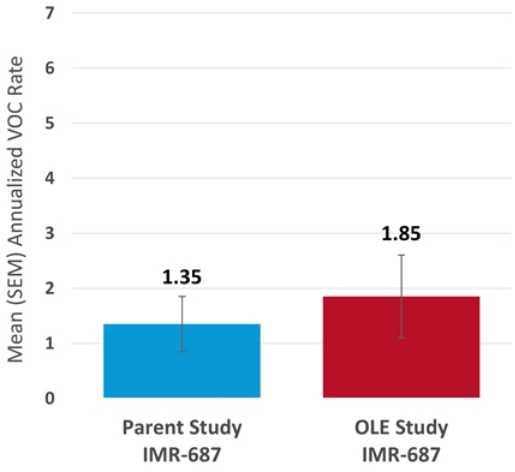


LS Mean (SEM) change from baseline to Week 24 by ANCOVA
ASCQ-Me® = Adult Sickle Cell Quality Of Life Measurement System

OLE Study: Annualized VOC Rate Extends Parent Study Findings

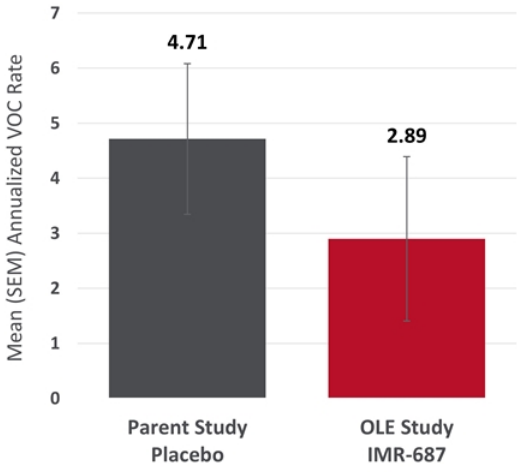
- Includes subjects with or without stable background HU therapy, treated for minimum of 200 days in OLE study (N=18)
- Subjects previously treated with IMR-687 **maintained low VOC rate** in OLE study
- Subjects previously treated with placebo had a **39% reduction** in VOC rate when switched to IMR-687 in OLE study

Subjects on IMR-687 during Parent Study



(N=13)

Subjects on Placebo during Parent Study



(N=5)

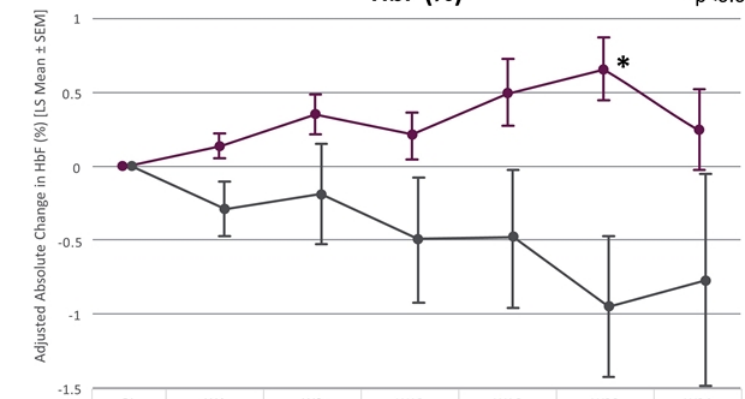
PRELIMINARY DATA

Parent Study, IMR=687 Monotherapy: HbF (%) and F-Cells (%)

- The percentage of hemoglobin made up of HbF (left) is driven by percentage of RBCs containing HbF, or F-cells (right)
- **HbF:** LS mean difference between pooled IMR-687 monotherapy groups and placebo groups increased over time
- **F-cells:** LS mean difference between pooled IMR-687 and placebo groups was significant by Weeks 20-24

HbF (%)

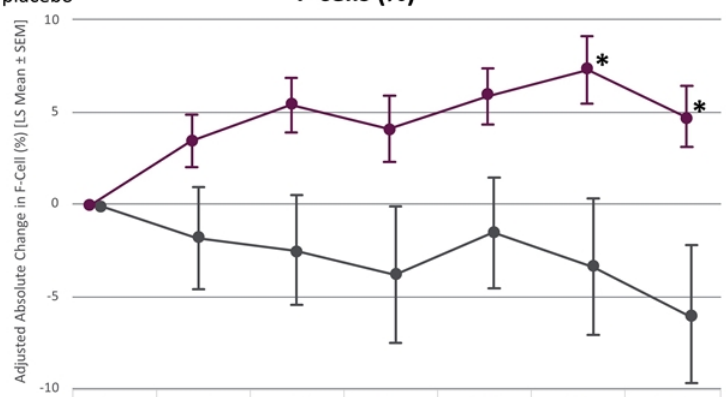
*p<0.05 vs placebo



	BL	W4	W8	W12	W16	W20	W24
Placebo	19	17	15	11	10	7	6
IMR-687	37	32	32	28	24	22	23

Number of subjects Per Given Week

F-cells (%)



	BL	W4	W8	W12	W16	W20	W24
Placebo	18	14	14	11	10	8	7
IMR-687	32	26	26	23	21	20	20

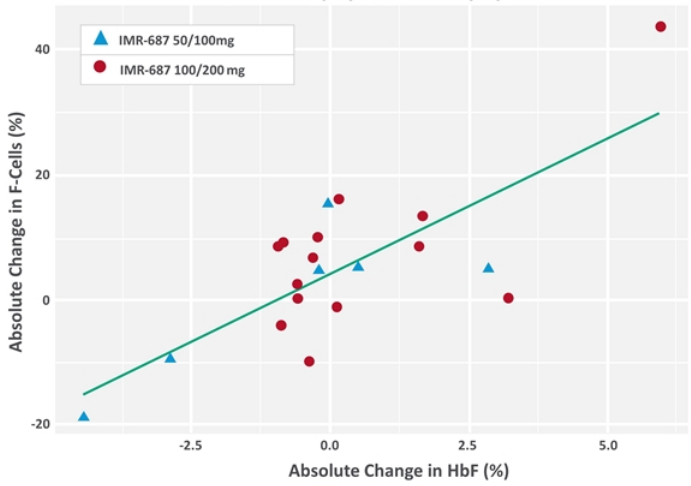
Number of subjects Per Given Week

Absolute least square (LS) mean (SEM) change from baseline by mixed model repeated measures (MMRM)

Parent Study, IMR-687 Mono: F-cells Correlate with HbF & IMR-687 AUC

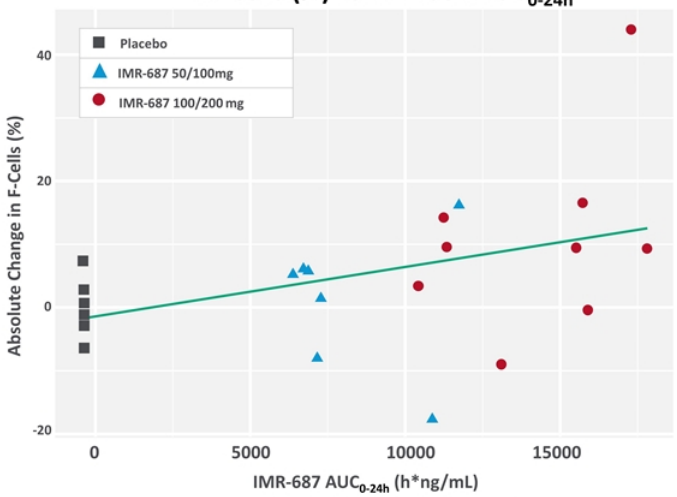
- Absolute change in F-cells (%) from baseline to Week 24 was highly correlated with absolute change in HbF (%), p=0.0002
- Absolute change in F-cells (%) from baseline to Week 24 was correlated with IMR-687 exposure ($AUC_{0\text{-}24h}$), p=0.043

ΔF-cells (%) vs ΔHbF (%)



Pearson Correlation: r = 0.7536, p = 0.0002

ΔF-cells (%) vs IMR-687 $AUC_{0\text{-}24h}$

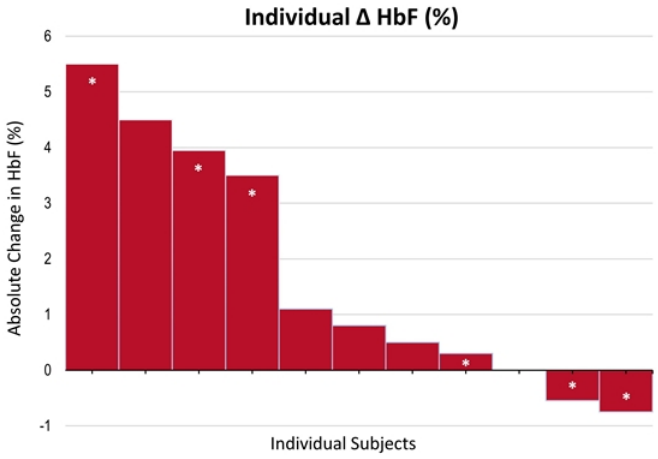


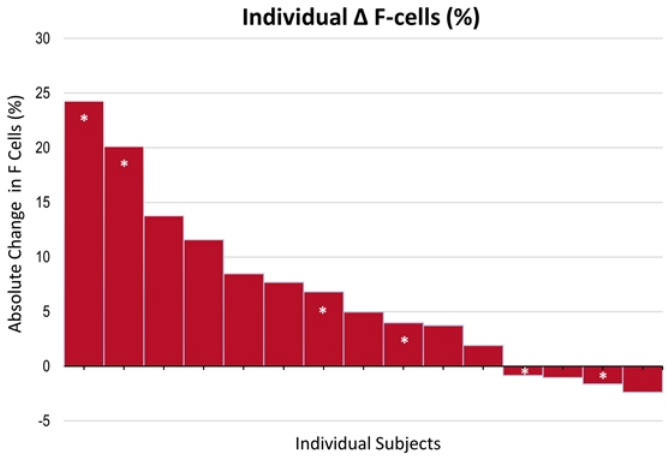
Pearson Correlation: r = 0.4251, p = 0.043

AUC = Area under curve for IMR-687 concentration

OLE Study: Higher Dose of 200mg Further Increases HbF & F-cells

- Month 8# HbF: **36% (4/11) of subjects** had response ≥3% (5.5%, 4.5%, 4.0%, 3.5%); mean change: +1.7%
- Month 8# F-cells: **47% (7/15) of subjects** had response ≥6%; mean change: +6.8%
- subjects are being further escalated to Ph-2b high dose equivalent (300mg/400mg) in Q3; amendment approved in UK/US
- Minimal change in total Hb; trend for reduction in indirect bilirubin, variable changes in LDH, reticulocytes (data not shown)



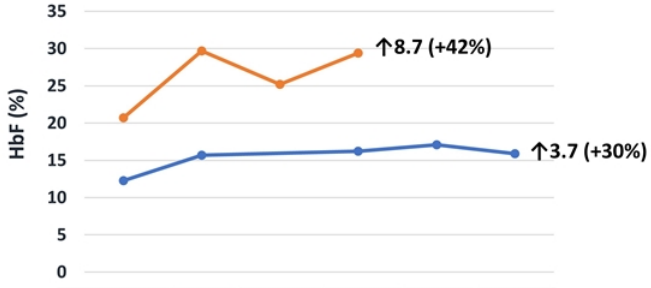


= Month 12 values used for one subject with missing Month 8 values
* = Subjects without treatment interruption – baseline from parent study used (total treatment duration 14 months)

PRELIMINARY DATA

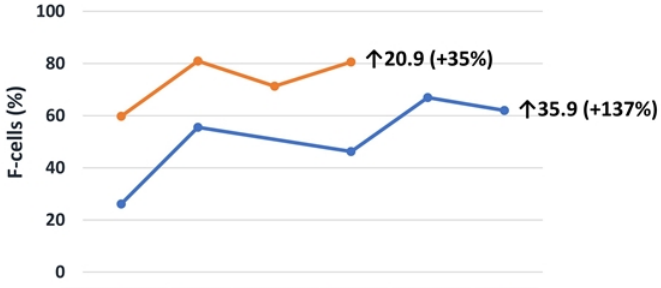
OLE subjects #1 and #2: Increase in HbF and F-cells on IMR-687

- **Subject #1:** (No treatment interruption): HbSS, female, monotherapy arm of Phase 2a, 24 months on OLE
  - (M24) showed an absolute increase in HbF of 3.7% and in F-cells of 35.9%
- **Subject #2:** (Treatment interrupted): HbSS, female, combo arm of Phase-2a (placebo + HU), 12 months on OLE
  - (M12) showed an absolute increase in HbF of 8.7% and in F-cells of 20.9%



	Baseline	M4	M8	M12	M18	M24
subject #1	3.5 (28%)	n/a	4.0 (32%)	4.9 (40%)	3.7 (30%)	
subject #2	9.0 (43%)	4.5 (22%)	8.7 (42%)	-	-	

Absolute Change (% Change)



	Baseline	M4	M8	M12	M18	M24
subject #1	29.3 (112%)	n/a	20.1 (77%)	40.8 (156%)	35.9 (137%)	
subject #2	21.3 (36%)	11.6 (19%)	20.9 (35%)	-	-	

Absolute Change (% Change)

Baseline for pt #1 from parent study (total treatment duration 30 months)

SCD: Ardent Phase 2b Study Design

Study Design

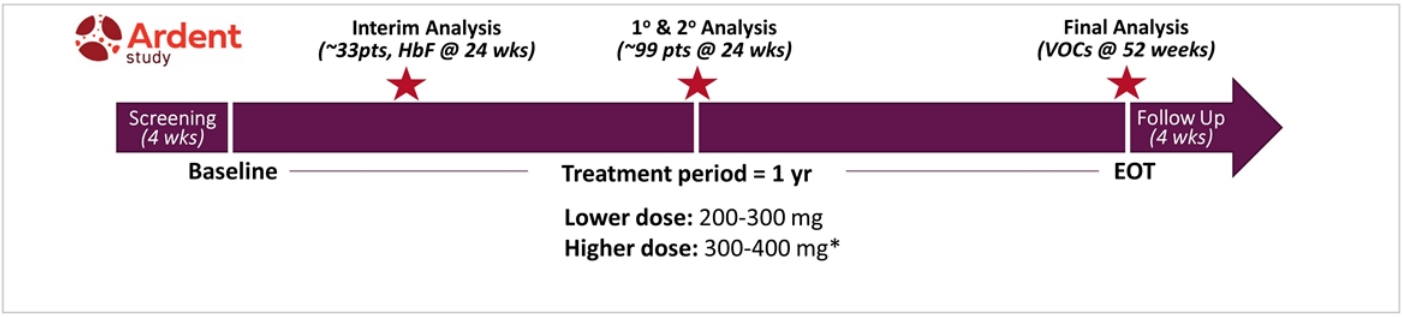
- Randomized, placebo-controlled
- N = ~99 SCD subjects
- 1-yr treatment duration
- 2 active doses vs. placebo

Key Eligibility Criteria

- ≥ 18 years old
- 2-12 VOCs in prior year
- Baseline Hb >5.5 and <10/5 g/dL
- HU if continuous for 6 mo & stable for 3 mo prior to randomization

Endpoints

- **Primary:** Response rate for HbF increase ≥3% at 24 weeks
  - ~90% powered @ primary endpoint to show 35% response in active group compared to 5% response in placebo
- **Key Secondary:** Annualized rate of VOCs (~80% powered)
- **Other Secondary:** Time to first VOC, rate of VOC hospitalizations, PROs, biomarkers of hemolysis, Hb, NTproBNP, etc.



*DMC approved higher dose opening in March 2021

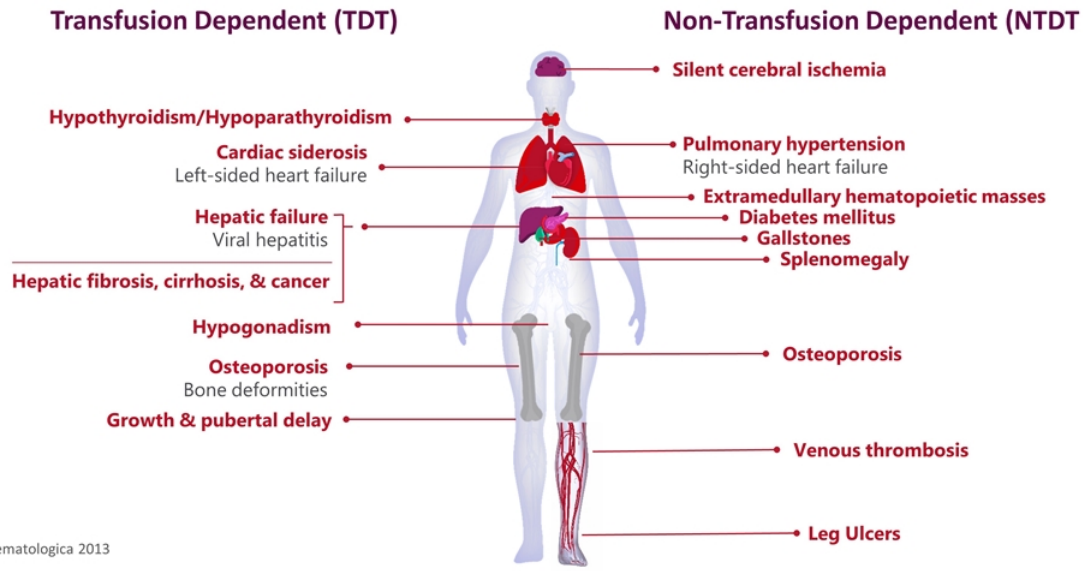
Higher Dose: Drives Confidence in Phase 2b SCD Endpoints

	Phase 2a (50-200 mg)	OLE (200 mg)	Phase 2b (200-400 mg)
HbF	• Directional increases in F-cells & HbF in pooled IMR-687 groups • F-cells (%) correlated with HbF (%) and with IMR-687 AUC	• 47% of subjects had an increase in F-cells ≥6%, and 36% of subjects had an increase in HbF ≥3% • 2 subjects with ≥12 mos on OLE study had sustained increases in HbF of ≥3%	**Primary Endpoint** (~90% Powered) • HbF Responder: subjects achieving ≥3% increase in HbF at 6 mos vs. placebo
VOCs	• 40% lower mean annualized rate of VOCs on IMR-687 • Significant prolongation of time to first VOC • 38% lower mean annualized rate of VOC-related hospitalizations	• 39% reduction in mean annualized rate of VOCs in subjects previously on placebo • Low rate of VOCs maintained longer term	**Key Secondary Endpoint** (~80% Powered) • Annualized rate of VOCs **Other Secondary Endpoints** • Time to first VOC • Rate of VOC-related hospitalizations • PROs

β-Thalassemia: Chronic Anemia, Iron Overload and Other Complications

β-Thalassmia Prevalence

~288,000 people worldwide | ~19,000 people in the **US/EU**



Musallam KM et al. Haematologica 2013

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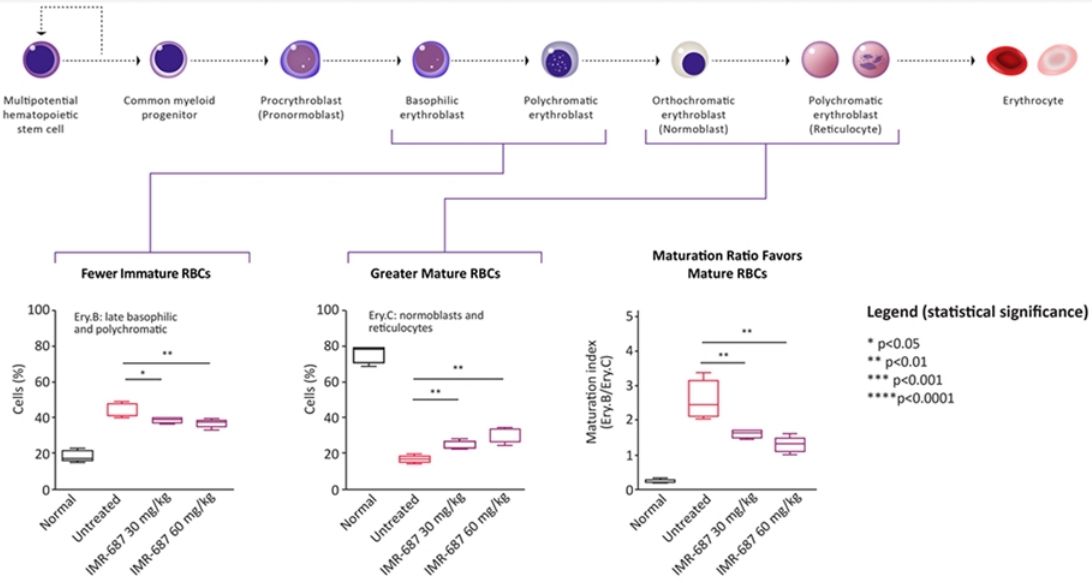
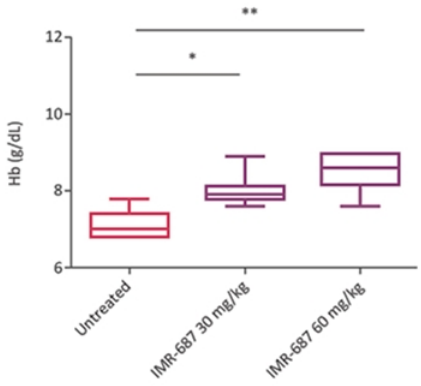
Pre-Clinical β-Thalassemia: IMR-687 Improved RBC Maturation

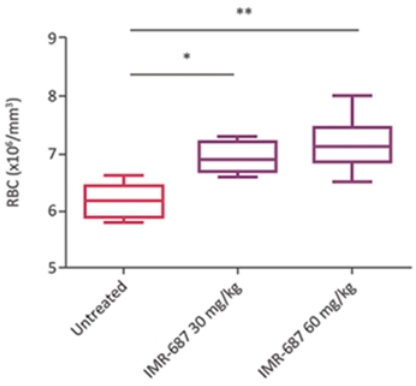
- **Hbb^{th1}** mice do not have functional Hbβ leading to ineffective erythropoiesis and decreased mature RBCs, low Hb
- IMR-687 high dose shows enablement of RBC maturation, a key mechanistic component in reducing pathology
- Normal mouse included as a control in the study (C57BL/6) to establish baselines



Pre-Clinical β-Thalassemia: IMR-687 Increased Hb and RBC Count

- IMR-687 showed increases in Hb vs. placebo: mean change of **1.5 g/dL** in 60mg/kg dose; increased RBC count





Legend (statistical significance)

* p<0.05
** p<0.01
*** p<0.001
****p<0.0001

β-thalassemia (BTL): Forte Phase 2b Study Design

Study Design

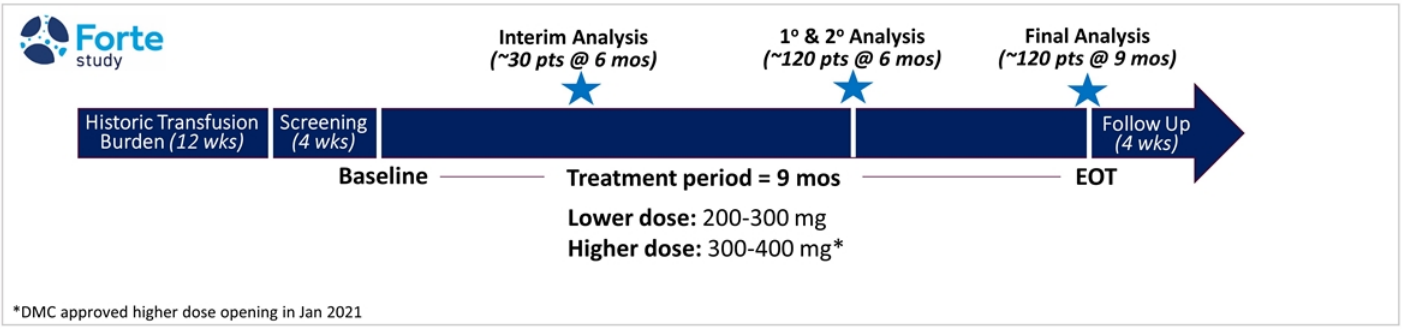
- Randomized, placebo-controlled
- N = ~120 BTL subjects (60 TDT, 60 NTDT)
- 9 months treatment duration
- 2 active doses vs. placebo

Key Eligibility Criteria

- ≥ 18 years old
- **TDT:** >3 to 10 pRBC units in 12 weeks prior to Day 1 with no transfusion-free period >35 days
- **NTDT:** 0 to ≤3 pRBC units in 12 weeks prior to Day 1 and transfusion-free for ≥4 weeks

Endpoints

- **Primary:** Safety
- **Secondary (TDT):** Reduced transfusion burden
- **Secondary (NTDT):** Increase in Hb & HbF
- **Others:** Change in iron overload; PROs; biomarkers of erythropoiesis, iron metabolism & hemolysis



*DMC approved higher dose opening in Jan 2021

TDT: transfusion dependent thalassemia
NTDT: non-transfusion dependent thalassemia
pRBC: packed red blood cells

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HFpEF Approach: Genetic Basis, Tissue Expression, MOA for PDE9

Genetic Basis for Indication

VUMC PrediXcan*

Higher genetically predicted PDE9 expression

10% greater risk of HFpEF P = 0.001

VUMC MEGA*

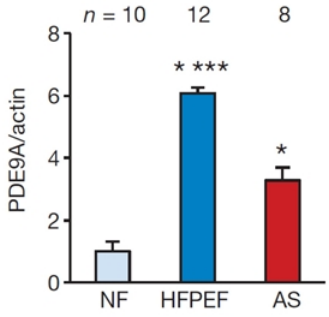
rs1045382.441 89166.T.C_C missense eQTL

9% lower risk of HF P = 0.046

N = 1407 cases
16102 controls
**Gene based association method that directly tests the molecular mechanisms through which genetic variation affects phenotype; run by VUMC*

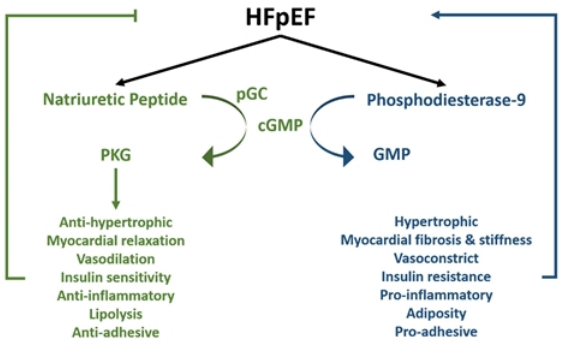
Tissue level expression

Human myocardium



Lee et al Nature 2015

Rationale



HFpEF: Pre-clinical Data from 3 Animal Models (Preventive & Therapeutic)

IMR-687 was tested in 3 animal models that recapitulate the HFpEF phenotype

1. Angiotensin-II Infusion (Preventive)
2. Uninephrectomy + D-Aldo (Preventive)
3. Db/db mouse (Therapeutic)

All 3 models feature:

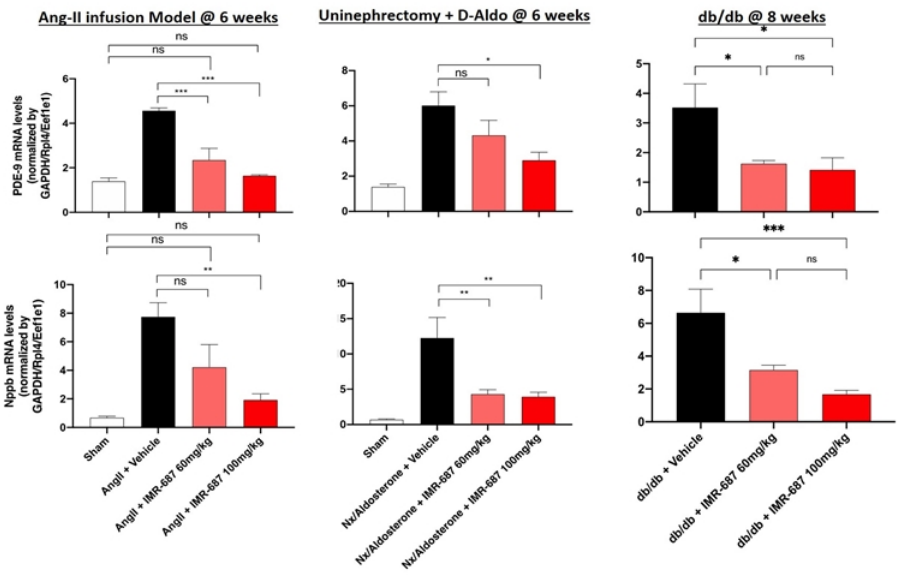
- Higher myocardial PDE9, NPPA, NPPB, larger cardiomyocyte size, increased fibrosis & inflammatory markers

IMR-687 significantly decreased:

- Myocardial NPPB & NPPA mRNA, plasma BNP and ANP concentrations
- Cardiomyocyte size, markers of fibrosis, inflammation & reduced renal dysfunction

IMR-687 did not affect heart rate or blood pressure

Results submitted to future medical meeting



KOLs: Thought-Leading CAB, Designing Ph-2 SP_9In-HFpEF Protocol

Deepak Gupta, MD MSCI
Assistant Prof
Vanderbilt Univ Med Ctr

Thomas Wang, MD
Prof & Chair of Int Med
UT-Southwestern

JoAnn Lindenfeld, MD
Prof & Director of HF
Vanderbilt Univ Med Ctr

Anna Hemnes, MD
Associate Prof
Vanderbilt Univ Med Ctr

Sheila Collins, PhD
Prof
Vanderbilt Univ Med Ctr

Frank Harrell Jr., PhD
Prof of Biostatistics
Vanderbilt Univ Med Ctr

Sanjiv Shah, MD
Prof
Northwestern Univ

Maggie Redfield, MD
Prof
Mayo Clinic

Joseph Hill, MD PhD
Prof & Chief of Cardiology
UT-Southwestern

March 2021 Summary Financial Data

	March 31, 2021 (in thousands, except share and per share data)
Consolidated Balance Sheet Data:	
Cash, cash equivalents and investments	$ 75,592
Working capital	74,858
Total assets	81,687
Total liabilities	6,093
Additional paid-in capital	181,945
Accumulated deficit	(106,370)
Total stockholders' equity	75,594
Basic shares outstanding	17,616,542
Fully diluted shares outstanding	19,809,006
Stock options outstanding	2,192,464
Shares reserved for future issuance under the 2020 Equity Incentive Plan	1,487,494
Shares reserved for future issuance under the 2020 Employee Stock Purchase Plan	191,363

	March 31, 2021 (in thousands, except share and per share data)
Consolidated Statement of Operations Data:	
Operating expenses:	
Research and development	$ 7,115
General and administrative	3,165
Total operating expenses	10,280
Loss from operations	(10,280)
Total other income, net	23
Net loss	$ (10,257)
Net loss attributable to common stockholders—basic and diluted	$ (10,257)
Weighted-average common shares outstanding—basic and diluted	17,577,454
Net loss per share attributable to common stockholders—basic and diluted	$ (0.58)

- We believe our cash, cash equivalents and investments as of March 31, 2021 are sufficient to enable us to fund planned operations into mid-2022

IMR-687: Lundbeck License and Core IP (out to 2036)

- IMR-687 was licensed from H. Lundbeck A/S in 2016
  - Worldwide, exclusive license to patent rights and know-how for PDE9 inhibitors in all fields except CNS
  - $23.5 million in payments on specified clinical, regulatory and first commercial sale milestones
  - Tiered low-to-mid single digit royalties on net sales

- IMR-687 Composition Core Intellectual Property
  - 3 published CoM patent families (exclusively licensed from Lundbeck A/S)
  - Each family entered into +20 jurisdictions (including US, EP, Far East, Africa, India and the Middle East)
  - Patents granted in all families
  - 2012-2015 filing dates, with last expected expiry date in 2036, absent any patent term extensions

- Methods of using IMR-687 and Next-Generation Composition Intellectual Property
  - Treatment (Sickle Cell Disease and B-Thalassemia), Synthesis of IMR-687, Crystalline Forms of IMR-687, Solid/Liquid Formulations of IMR-687
    - 6 published patent families (1 co-owned by Lundbeck A/S, 5 owned by Imara)
    - 20 cumulative jurisdictions (among the families) entered for national stage (broad national stage planned for PCT applications)
    - 4 allowed/granted with pending applications among all families
    - 2016-2019 filing dates

Imara Advocacy: Real Impact Grants & Community Efforts

- In 2020, we launched our inaugural Real Impact Grant, awarding **25 grants** to U.S. based community-based organizations
- The grant totaled **$125,000** to provide resources to families impacted by sickle cell disease and beta-thalassemia and the COVID-19 pandemic
- We provided supportive services for another **2,800 families**, including more than **8,300 individuals**
- In 2021, we have launched our second year of the Real Impact Grant initiative with up to **$150,000** in funding to Community Based Organizations (CBO)