UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, DC 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): March 2, 2023

GlycoMimetics, Inc.
(Exact name of registrant as specified in its charter)

Delaware	**001-36177**	**06-1686563**
(State or other jurisdiction of incorporation)	(Commission File Number)	(IRS Employer Identification No.)

9708 Medical Center Drive
Rockville, MD 20850
(Address of principal executive offices, including zip code)

(240) 243-1201
(Registrant's telephone number, including area code)

N/A
(Former name or former address, if changed since last report)

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

☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

☐ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

☐ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

☐ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Securities 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, $0.001 par value	GLYC	The Nasdaq Stock Market

Indícate 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 7.01. Regulation FD Disclosure.

A copy of a slide presentation that GlycoMimetics, Inc. (the "Company") plans to use for anticipated investor meetings is attached to this Current Report as Exhibit 99.1 and is incorporated herein solely for purposes of this Item 7.01 disclosure.

The information in this Item 7.01, including Exhibit 99.1 attached hereto, is being furnished and shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, or otherwise subject to the liabilities of that Section. The information in this Item 7.01, including Exhibit 99.1 attached hereto, shall not be incorporated by reference into any registration statement or other document pursuant to the Securities Act of 1933, except as otherwise expressly stated in such filing.

Item 9.01. Exhibits.

(d) Exhibits

Exhibit Number	Exhibit Description
99.1	GlycoMimetics, Inc. Corporate Presentation, March 2, 2023
104	Cover Page Interactive Data File (the cover page XBRL tags are embedded within the Inline XBRL document)

SIGNATURES

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

GLYCOMIMETICS, INC.

By: /s/ Brian M. Hahn
Brian M. Hahn
Senior Vice President and Chief Financial Officer

Date: March 2, 2023


GlycoMimetics
Glycobiology-based therapeutics
Transforming lives.
NASDAQ: GLYC
March 2023
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Forward-Looking Statements

- To the extent that statements contained in this presentation are not descriptions of historical facts, they are forward-looking statements reflecting the current beliefs and expectations of the management of GlycoMimetics, Inc. ("GlycoMimetics," "we," "us," "our"). Forward-looking statements contained in this presentation may include, but are not limited to: (i) the expected or projected timing of events and data readout from ongoing Phase 3 clinical trials of uproleselan; (ii) the planned or potential clinical development and potential indications, benefits and impact of our drug candidates, including uproleselan; (iii) the timing of receipt clinical data; (iv) the potential safety, efficacy or clinical utility of our drug candidates; (v) the size of patient populations targeted b drug candidates we or our collaborators develop, and market adoption of our potential drug candidates by payors, physicians an patients; (vi) the likelihood and timing of regulatory filings, approvals or other anticipated interactions with regulatory authorities; (our business and product development strategies, including our cash needs and expected cash runway; and (viii) any other statement containing terminology such as "may," "will," "should," "expects," "plans," "anticipates," "believes," "estimates," "predicts "potential," "intends," or "continue," or the negative of these terms or other comparable terminology.
- Forward-looking statements are subject to known and unknown risks, uncertainties, and other factors that may cause our or our industry's actual results, levels of activity, performance, or achievements to be materially different from those discussed, implied or otherwise anticipated by such statements. You are cautioned not to place undue reliance on such forward-looking statements, wh are current only as of the date of this presentation. Examples of risks, uncertainties and factors that may cause differences between our expectations and actual results include unexpected safety or efficacy data, unexpected side effects observed during preclinical studies or in clinical trials, lower than expected enrollment rates in clinical trials, whether results of early clinical trials w be indicative of results from later clinical trials, changes in expected or existing competition or additional market research that ma cause our expectations about market opportunity to change, changes in the regulatory environment for our drug candidates, failu of our collaborators to support or advance our collaborations or drug candidates, our need for future capital, the inability to adequately protect our intellectual property, and becoming a party to litigation or other disputes. For a further description of the ri associated with forward-looking statements, as well as other risks facing GlycoMimetics, please see the risk factors described in Company's Annual Report on Form 10-K filed with the U.S. Securities and Exchange Commission on March 3, 2022, its Quarterl Report on Form 10-Q filed with the SEC on November 9, 2022, and other reports we file with the U.S. Securities and Exchange Commission from time to time, including those factors discussed under the caption "Risk Factors" in such filings. Forward-looking statements speak only as of the date of this presentation, and GlycoMimetics undertakes no obligation to update or revise these statements, except as may be required by law.

Pioneers in glycobiology-based therapies for cancers and other rare diseases

Strong Foundation with Near-Term Catalysts and Broad Pipeline

Uproleselan: Multiple Late-Stage Clinical Trials

- **Fully enrolled Phase 3 trial** in R/R AML (n=388), OS events trigger currently projected for **~1H-2024**
- **Fully enrolled Phase 2 trial** in front-line AML (n=267) ongoing, **NCI-sponsored**
- **Ongoing ISTs** in other AML populations. Preliminary data presented at ASH 2022
- **Novel MOA** → potential **broad utility** with **Breakthrough Therapy**, **Fast Track**, and **Orphan** designations

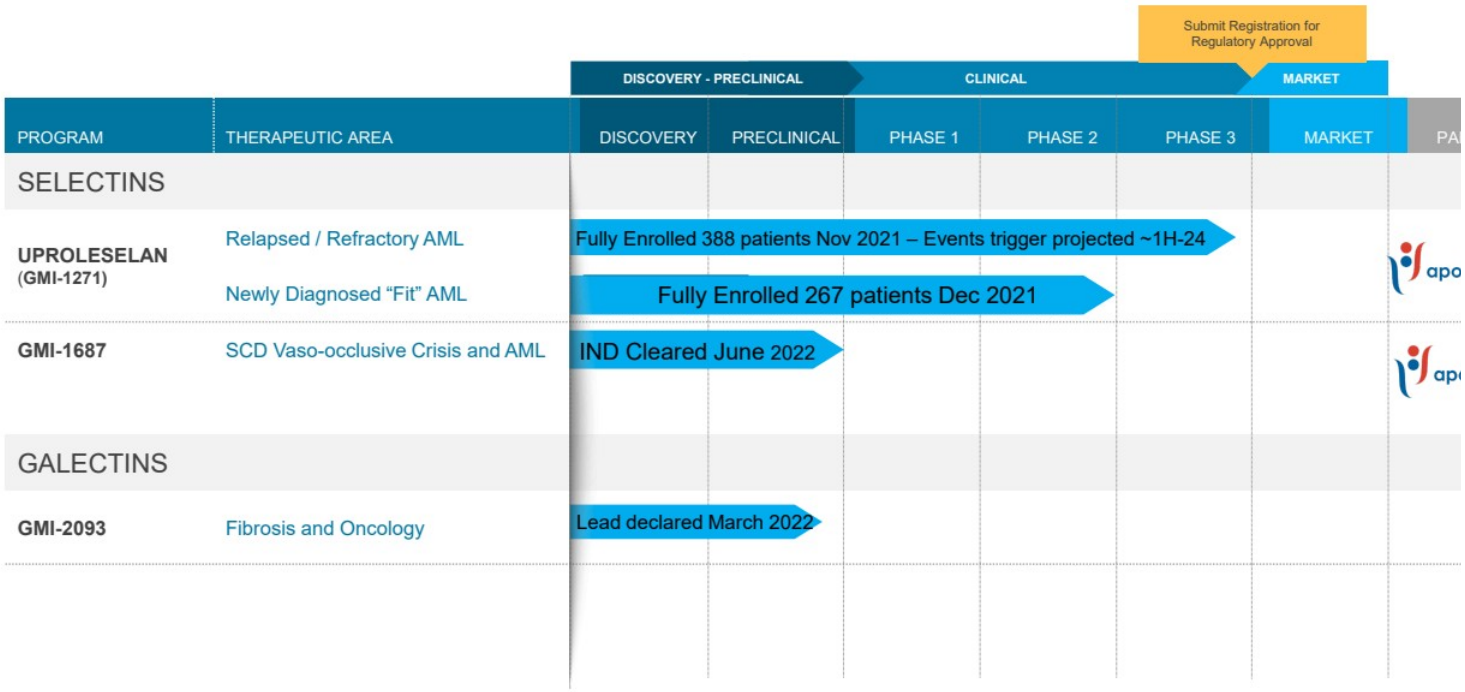
Broad Early-Stage Pipeline

- Novel small molecules inhibit carbohydrate signaling
- **GMI-1687**
  - Targets sickle cell pain crises
  - Cleared FDA 30-day IND review
- **GMI-2093**
  - Targeting fibrotic diseases
  - First oral Galectin-3 antagonist

Targeted Operational Execution

- **Recent Key Leadership Hires** → purpose-driven biotechnology team
- **Deep expertise** in regulatory, medical and commercialization across hem/onc therapies

A Portfolio of Exciting Product Candidates



* Greater

Uproleselan (GMI-1271)

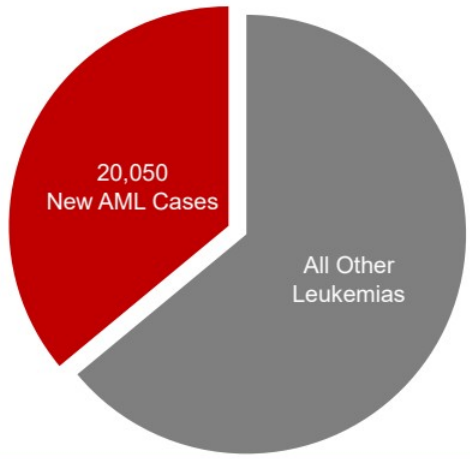
Breakthrough Therapy Designation in AML

GlycoMim

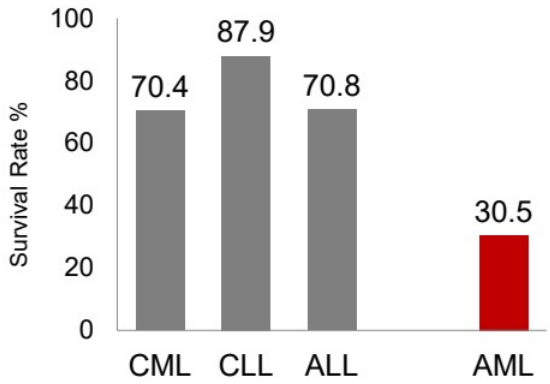
SIGNIFICANT UNMET NEED IN AML

Significant Lowest 5-Year Survival of all Leukemias[1]

Estimated New Cases (2022)

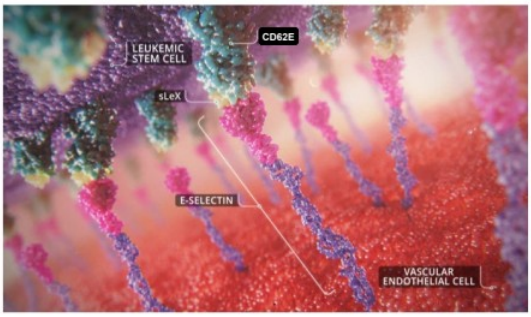


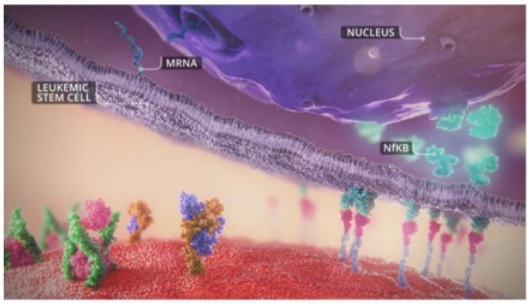
5-Year Relative Survival (2011 – 2018)



1. SEER 2022 S

Uproleselan: First-in-Class E-Selectin Antagonist to Address Resistance Pathways in AML





E-selectin:

- ✓ Adhesion molecule constitutively expressed in bone marrow microvasculature
- ✓ Up-regulated by Leukemic Stem Cells and AML blasts via secreted inflammatory mediators

E-selectin/E-selectin Ligand Interaction:

- ✓ Enables AML blast sequestration in bone marrow
- ✓ Activates pro-survival NF-kB pathways
- ✓ E-selectin ligand sLe^x up-regulated on AML cells via multiple distinct drug resistance mechanisms

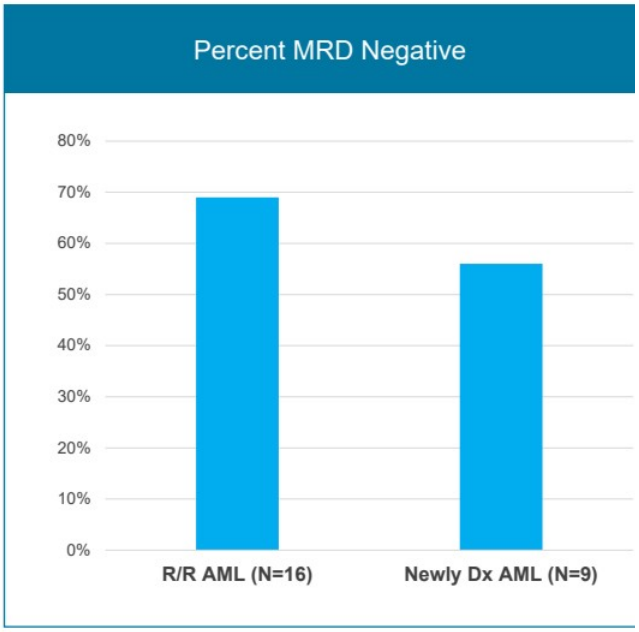
Uproleselan, an E-Selectin Antagonist:

- ✓ Releases AML blasts from vascular sequestration, agnostic to AML mutational status
- ✓ Disrupts NF-kB mediated chemoresistance pathways
- ✓ Potential broad utility across AML

UPROLESELAN in R/R and Newly Diagnosed AML Patients

Phase 1/2 Results

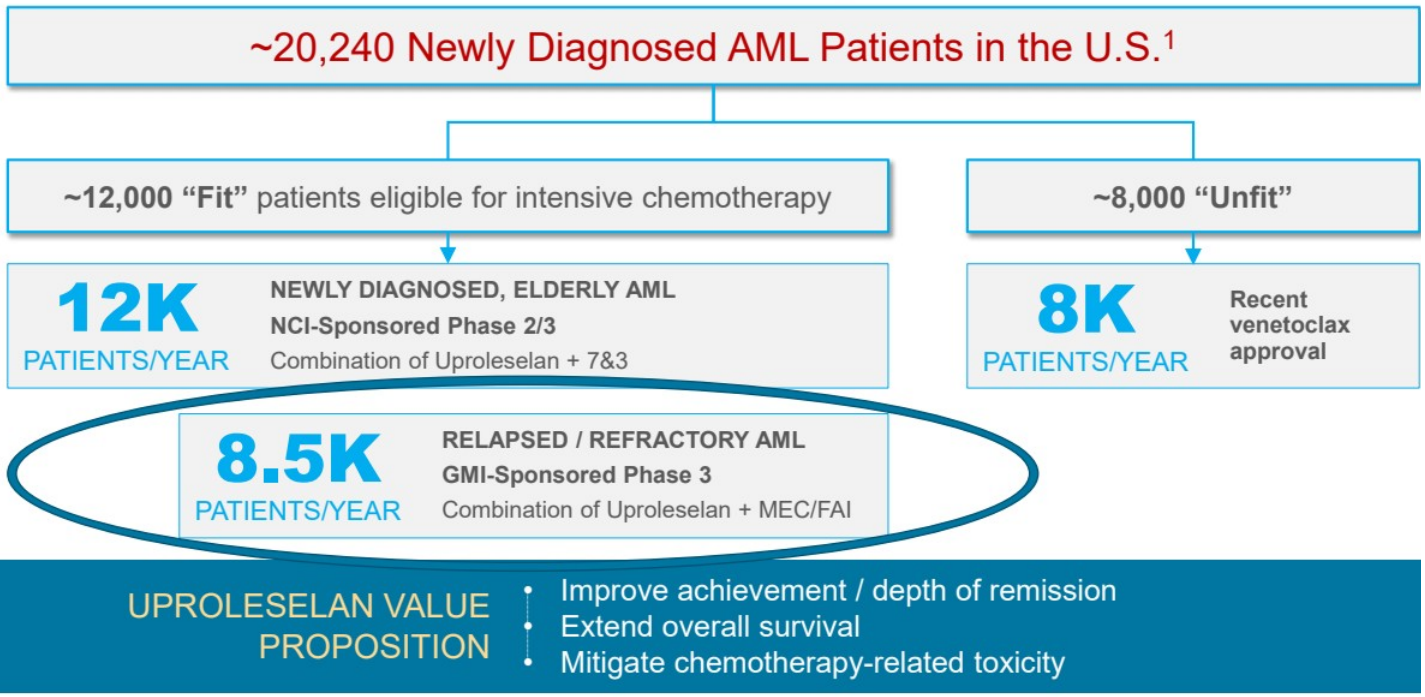
- 41% CR/CRi; 8.8 mos. Median Overall Survival in Relapsed/Refractory AML
- 72% CR/CRi; 9.2 mos. Event Free Survival in Newly Diagnosed AML
- MRD-negativity in >50% of evaluable patients
  - Enhancing depth of response
- E-selectin ligand expression
  - Detectable in every patient tested
  - Higher levels in R/R patients achieving CR/CRi, MRD- and prolonged median OS



blood Results Published in *Blood February* '22

UPROLESELAN

Potential Foundational Backbone Across Spectrum in AML



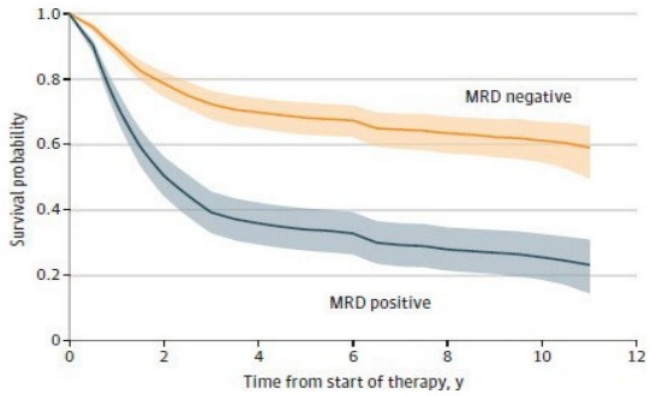
UPROLESELAN VALUE PROPOSITION

- Improve achievement / depth of remission
- Extend overall survival
- Mitigate chemotherapy-related toxicity

1. SEER 2021

MRD negativity and HSCT both favorably prognostic

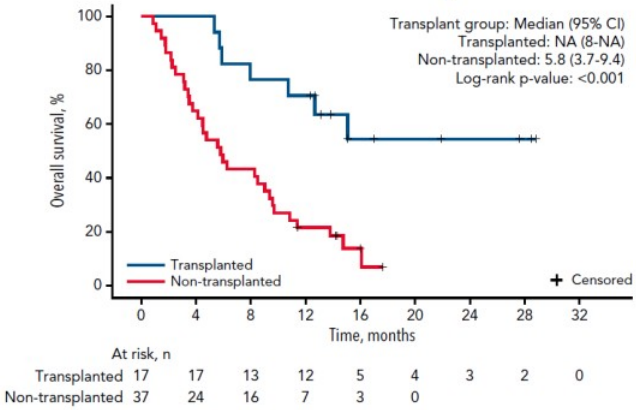
Overall Survival by MRD status



- Meta-analysis of 81 studies (N >11,000)
  - MRD negativity prognostic for superior OS
  - Average OS MRD HR 0.36,
  - Independent of age, subtype, timing, method

Short, et al. JAMA Oncology 2020 6(12): 1890-1899

Overall Survival by HSCT

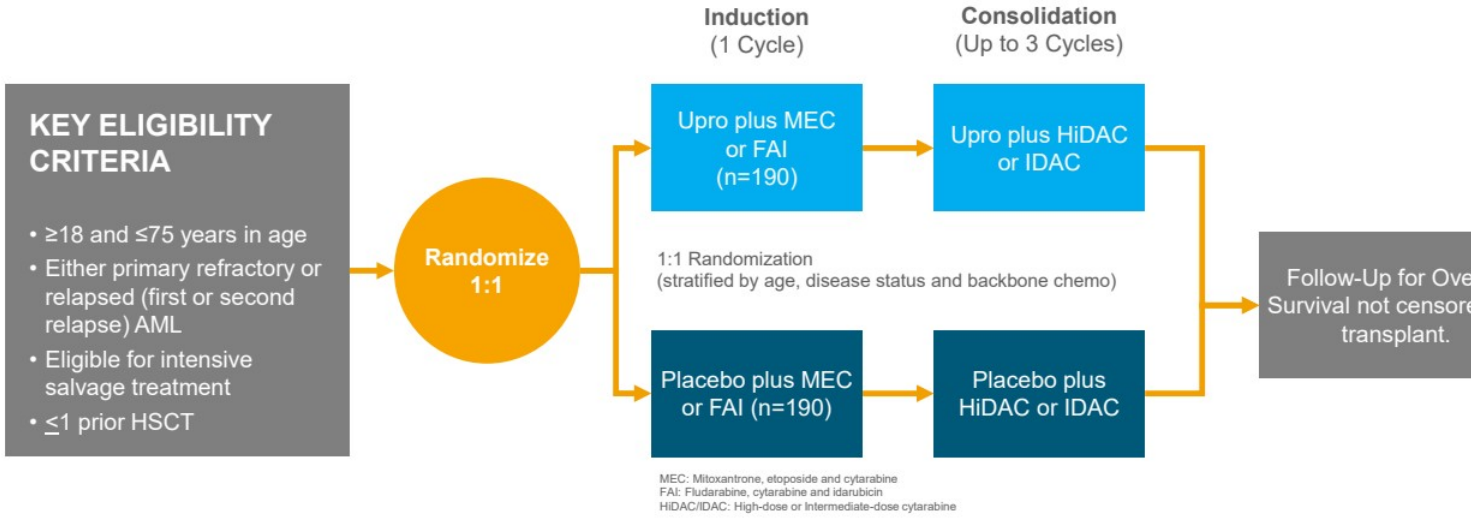


- Uproleselan Phase 1/2 overall survival by HSCT
  - N=54 R/R AML patients at 10 mg/kg RP2D
  - 10 longest survivors all MRD-negative
  - Overall MRD-negative: 56% 1L, 69% R/R

DeAngelo et al, Blood 2022 139(8):1135-1146.

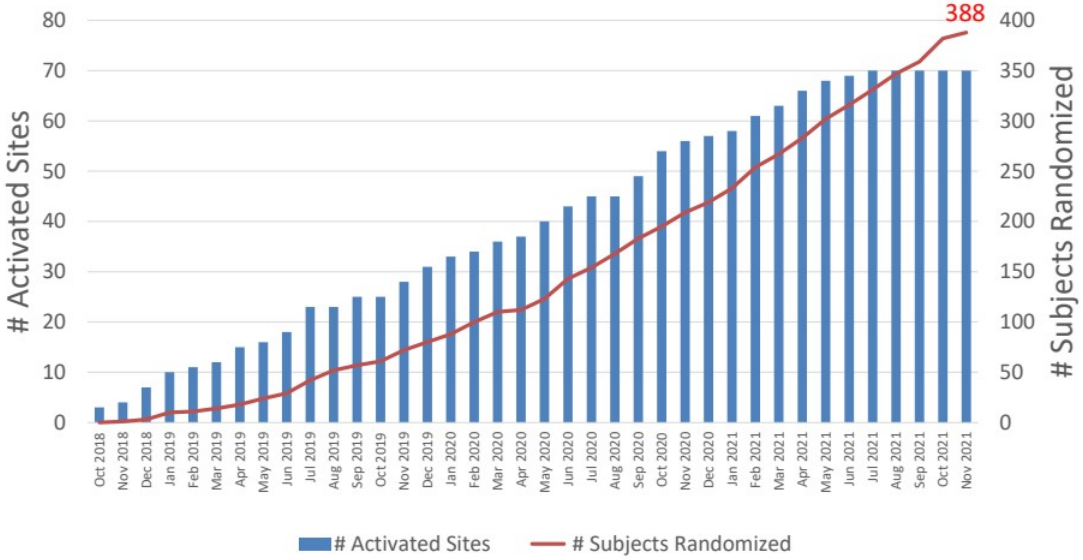
UPROLESELAN

Relapsed / Refractory AML Phase 3 Study Design



Enrollment of 388 Completed in November 2021

Study GMI-1271-301 Enrollment



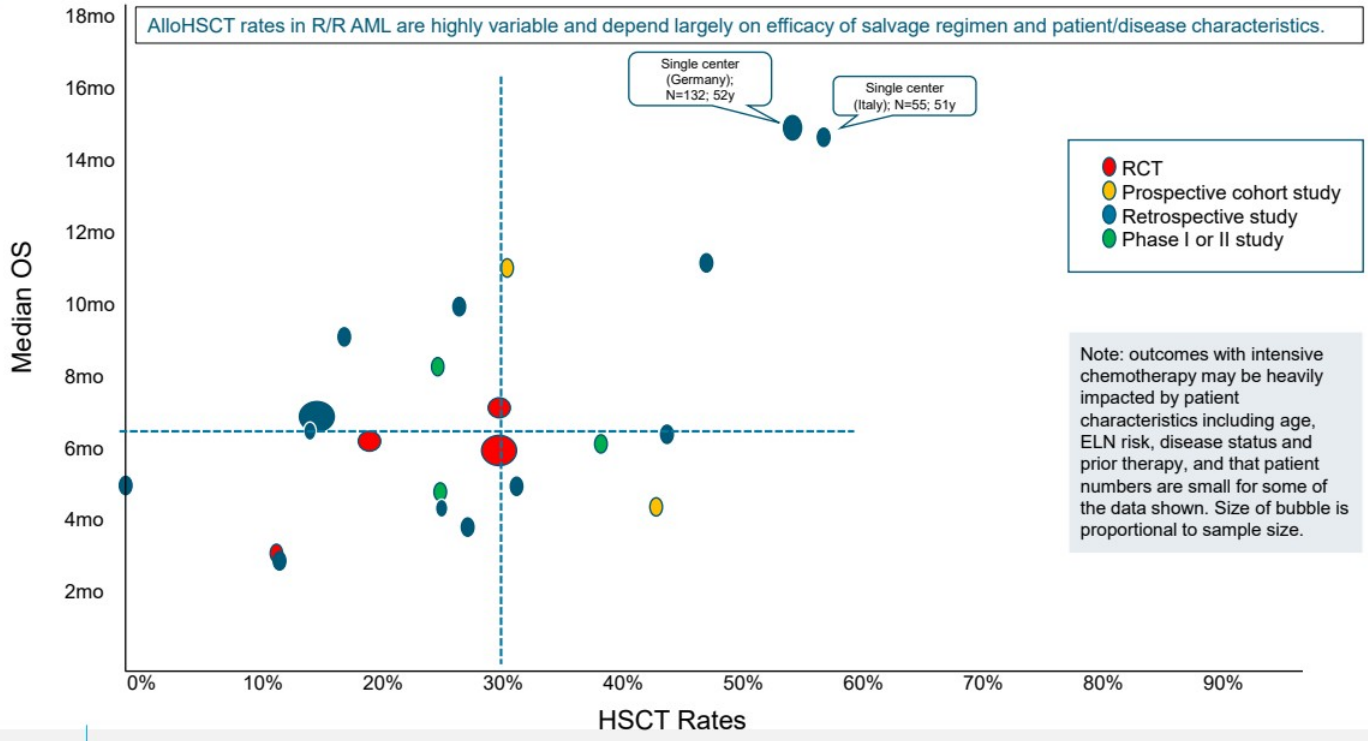
- 380 planned, 388 enrolled
- FPFV- November 2018
- LPFV- November 2021
- **11 patients (3%) lost to follow**

UPROLESELAN

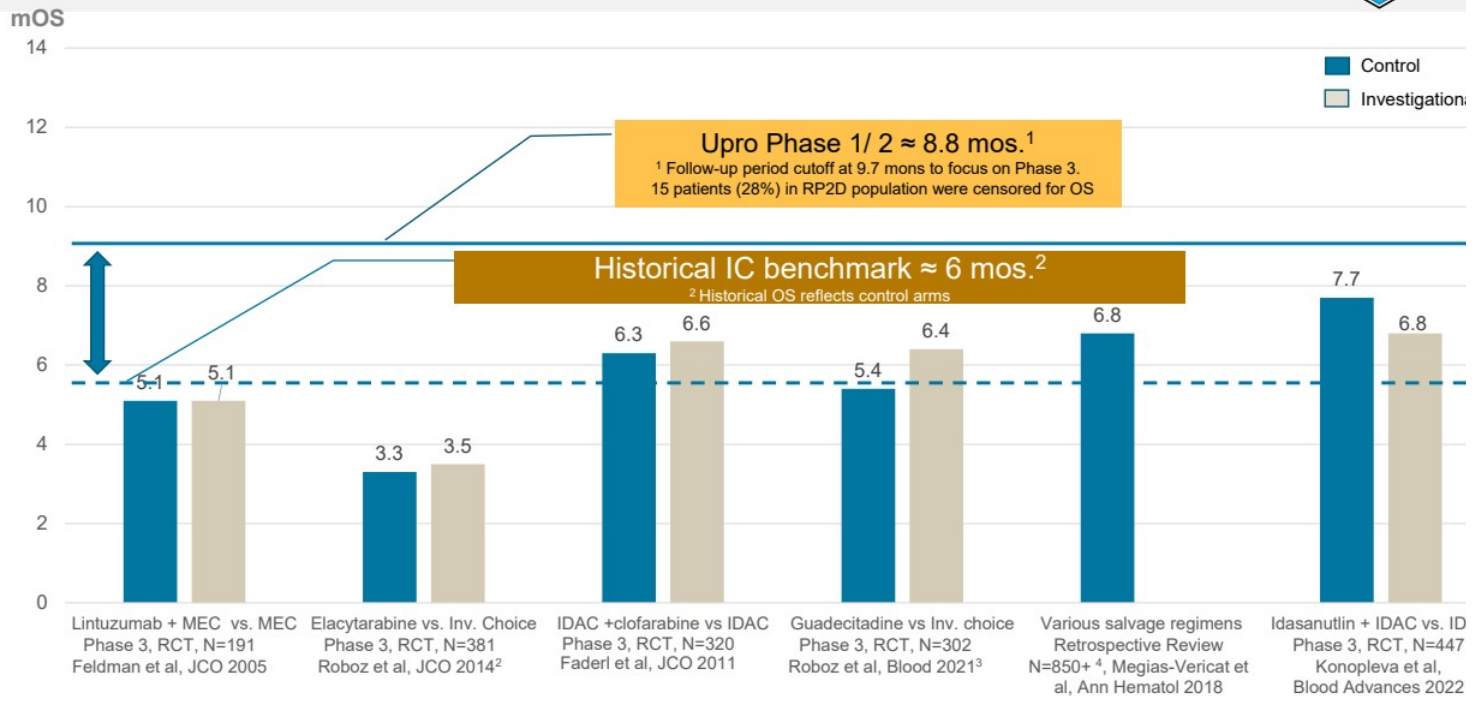
Phase 3 Patient Characteristics Broadly Similar to Phase 2

Relapsed/Refractory Patient Demographics	301 Study N=388	201 Study N=66
Age, median (range)	**58 (20-75)**	**59 (26-84)**
Refractory, n (%)	**129 (33%)**	**22 (33%)**
Relapsed, n (%)	**259 (67%)**	**44 (67%)**
Duration of prior remission ≤6 mos	**49 (19%)**	**18 (41%)**
Prior Therapies		
HSCT	**70 (18%)**	**12 (18%)**
≥2 Induction Regimens	**63 (16%)**	**22 (33%)**
ELN Risk Category		
Adverse	**42%**	**50%**
Intermediate	**23%**	**17%**
Favorable	**21%**	**11%**
Unknown	**14%**	**22%**

Intensive Chemotherapy (IC) in R/R AML
Typical ~6-7 months mOS and HSCT rates ~25-30%



Historical Intensive Chemotherapy benchmarks for mOS are ~6 months

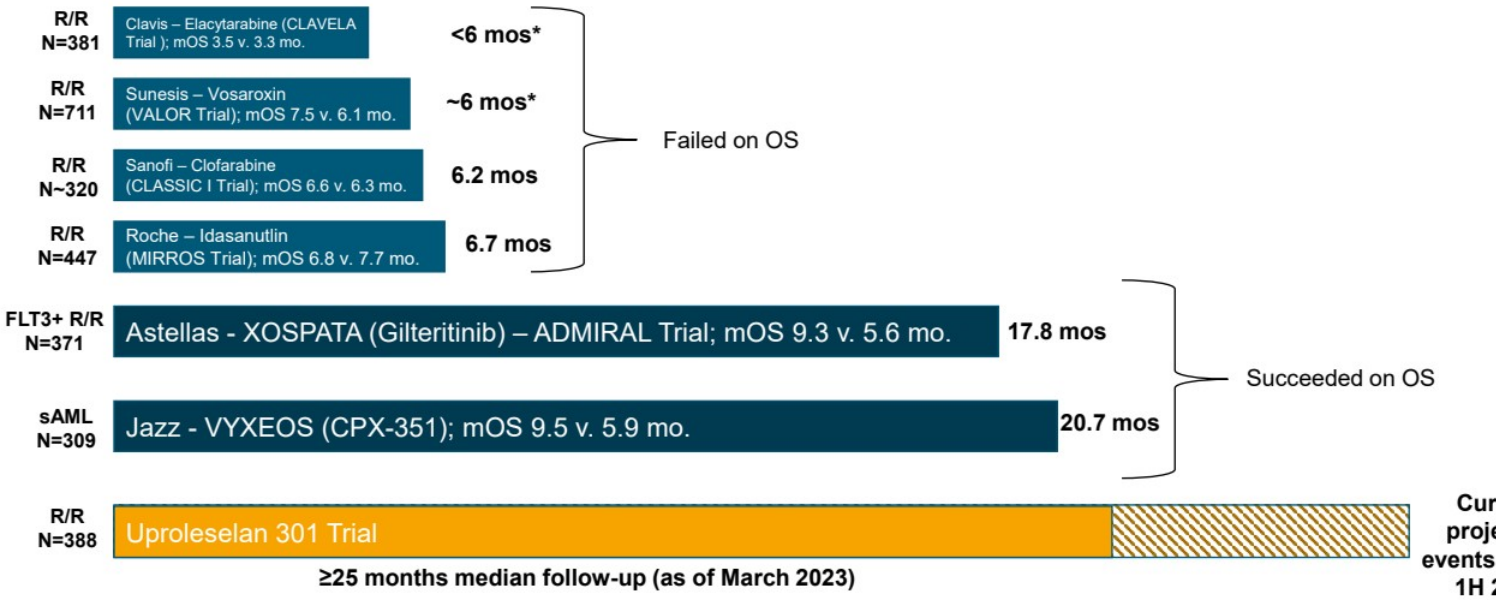


Note: patient outcomes for IC eligible populations often vary depending upon patient and disease characteristics

[3] Control group includes patients on MEC and FLAG-IDA

[4] All patients in this analysis received MEC

Duration of Follow-Up and Outcomes in Key AML Trials

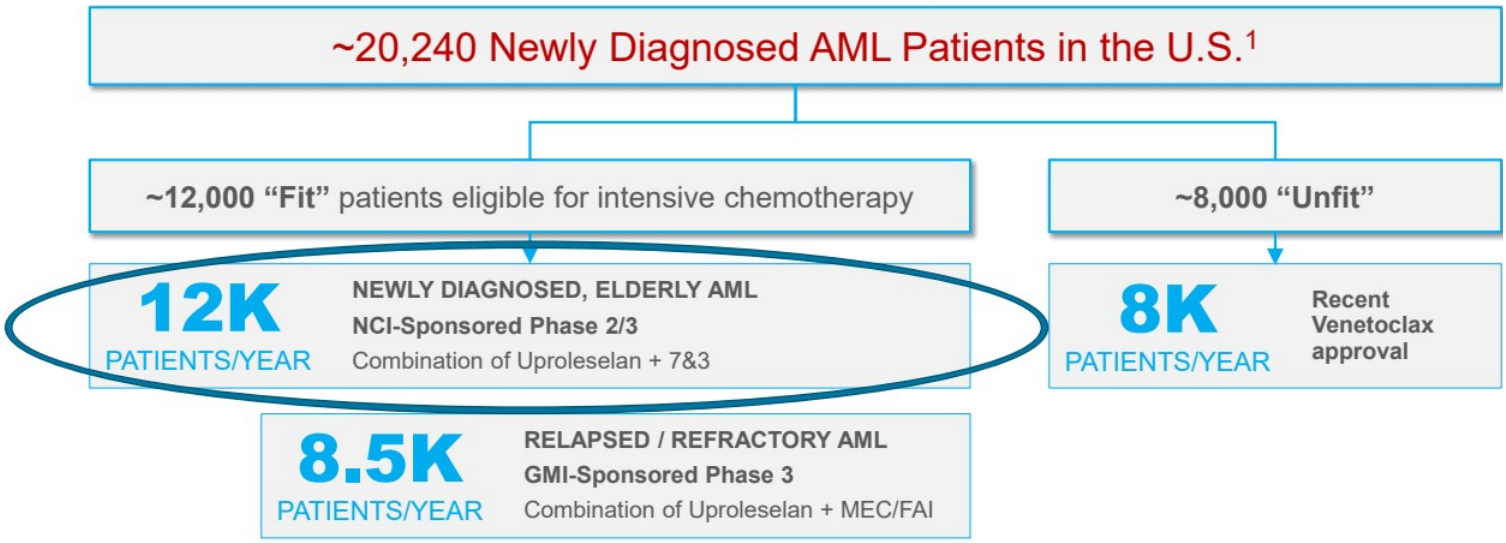


* Median follow-up stated at time of event trigger and derived from protocol and/ or final results as it was not included in the publication

Follow-Up Versus Outcome in Select AML Trials

Trial	Median Survival (mos)	Enrollment (mos)	Median Follow-up (mos)	Enrolled (N)	Events	OS HR	P-value
CLAVELA	3.5 vs 3.3 mos	28	< 6	381	302	0.97	0.96
VALOR	7.5 vs 6.1 mos	33	~ 6	711	562	0.87	0.0610
CLASSIC I	6.6 vs 6.3 mos	38	6.2	320	258	1.00	1.00
MIRROS	6.8 vs 7.7 mos	48.5	6.7	436	296	1.09	0.52
VIALE-A	15 vs 10 mos	27	20.5	433	270	0.66	< 0.001
VYXEOS	9.6 vs 6.0 mos	~24	20.7	309	236	0.69	0.003
ADMIRAL	9.3 vs 5.6 mos	28	17.8	371	258	0.64	< 0.001
Uproleselan	TBD	36	>25 (Mar 23)	388	295	TBD	TBD

UPROLESELAN
Potential Foundational Backbone Across Spectrum in AML



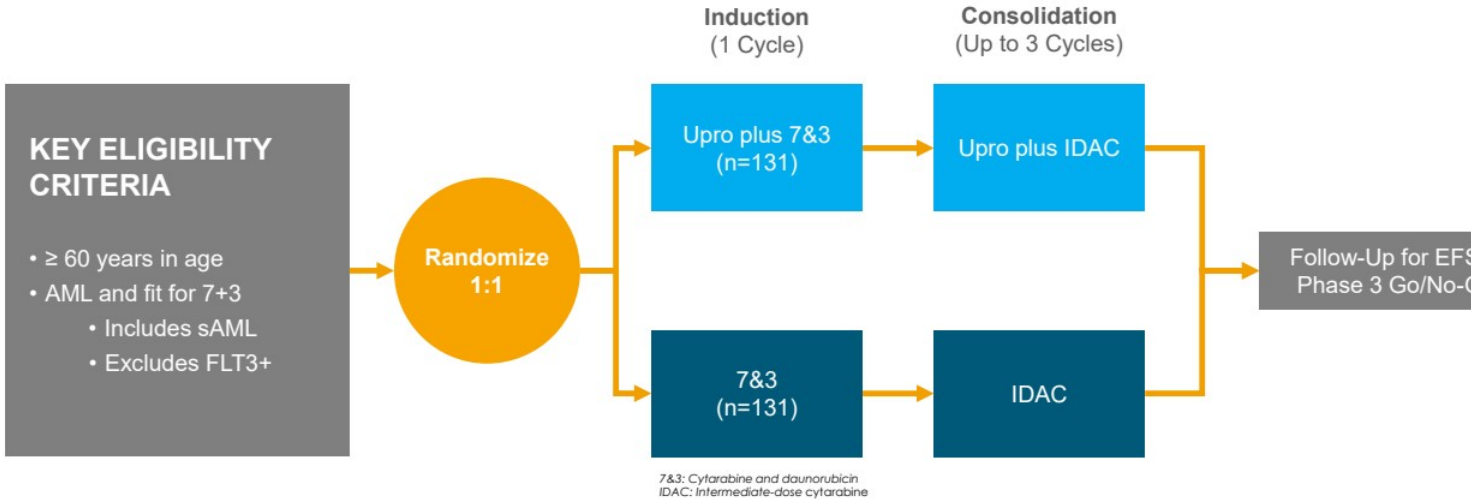
UPROLESELAN VALUE PROPOSITION

- Improve achievement / depth of remission
- Extend overall survival
- Mitigate chemotherapy-related toxicity

1. SEER 2021

UPROLESELAN

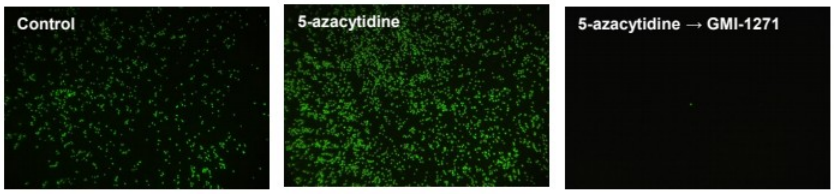
NCI / Alliance Frontline "Fit" AML Phase 2/3 Study Design



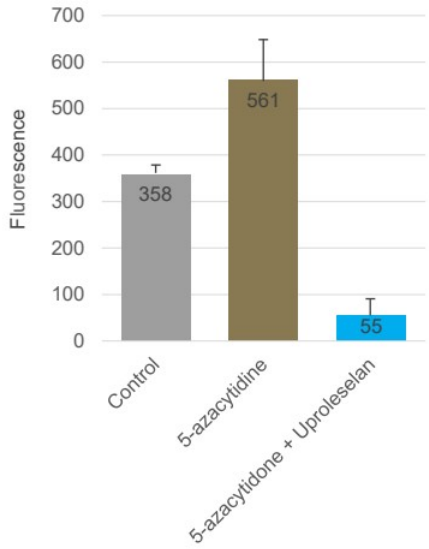
Phase 2 portion fully enrolled in December 2021

HMA Resistance is Driven by E-selectin, Broken by Uproleselan

UPROLESELAN INHIBITS BINDING OF BLASTS



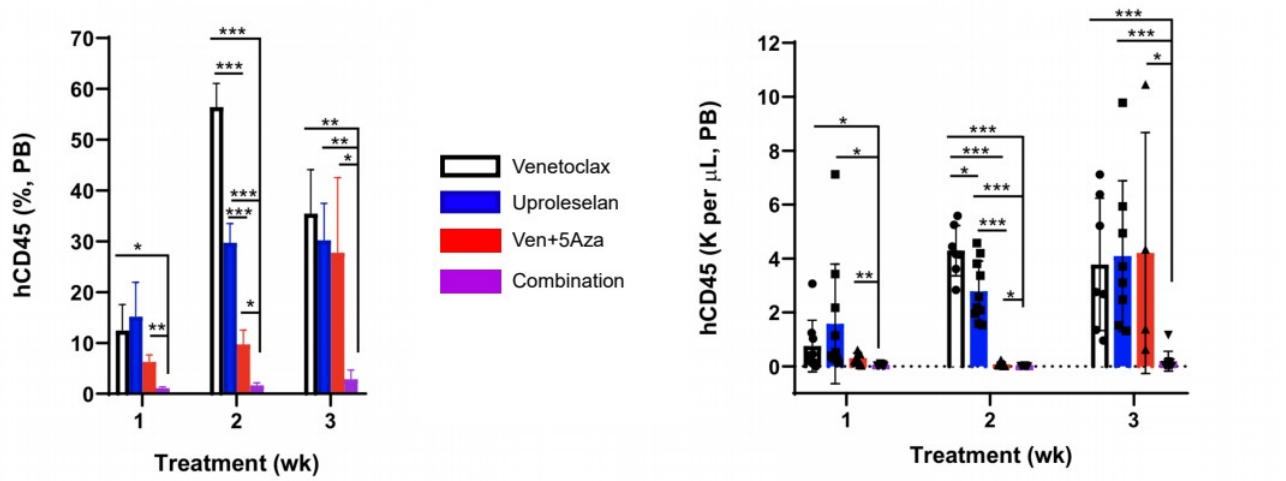
KG1 AML cells were incubated for 96 hours in the absence or presence of 100 nM 5-azacytidine, labeled with calcein and allowed to adhere to E-selectin coated plates (control and 5-azacytidine above). After 45 minutes of adhesion, Uproleselan was added to the wells and fluorescence determined after 30 minutes (5-azacytidine → Uproleselan above).



*SOHO Septen

UPROLESELAN / VENETOCLAX / HMA COMBINATION
Significantly Reduces Leukemia Burden*

AML-PDX FROM A VENETOCLAX / HMA RESISTANT PATIENT



*p< 0.05; **p<0.01; ***p<0.001, Student's t-test for experiments that compare two groups.

ASH 2022: First Clinical Uproleselan Data Generated Outside of GlycoMimetics-Sponsored Trials

Uproleselan data from two investigator-sponsored trials presented at ASH in December 2022

A Phase I Study of Uproleselan Combined with Azacitidine and Venetoclax for the Treatment of Older or Unfit Patients with Treatment Naïve Acute Myeloid Leukemia

Brian Jonas, M.D., Ph.D., of the University of California, Davis
Publication Number: 2764

Encouraging safety and evidence of disease activity

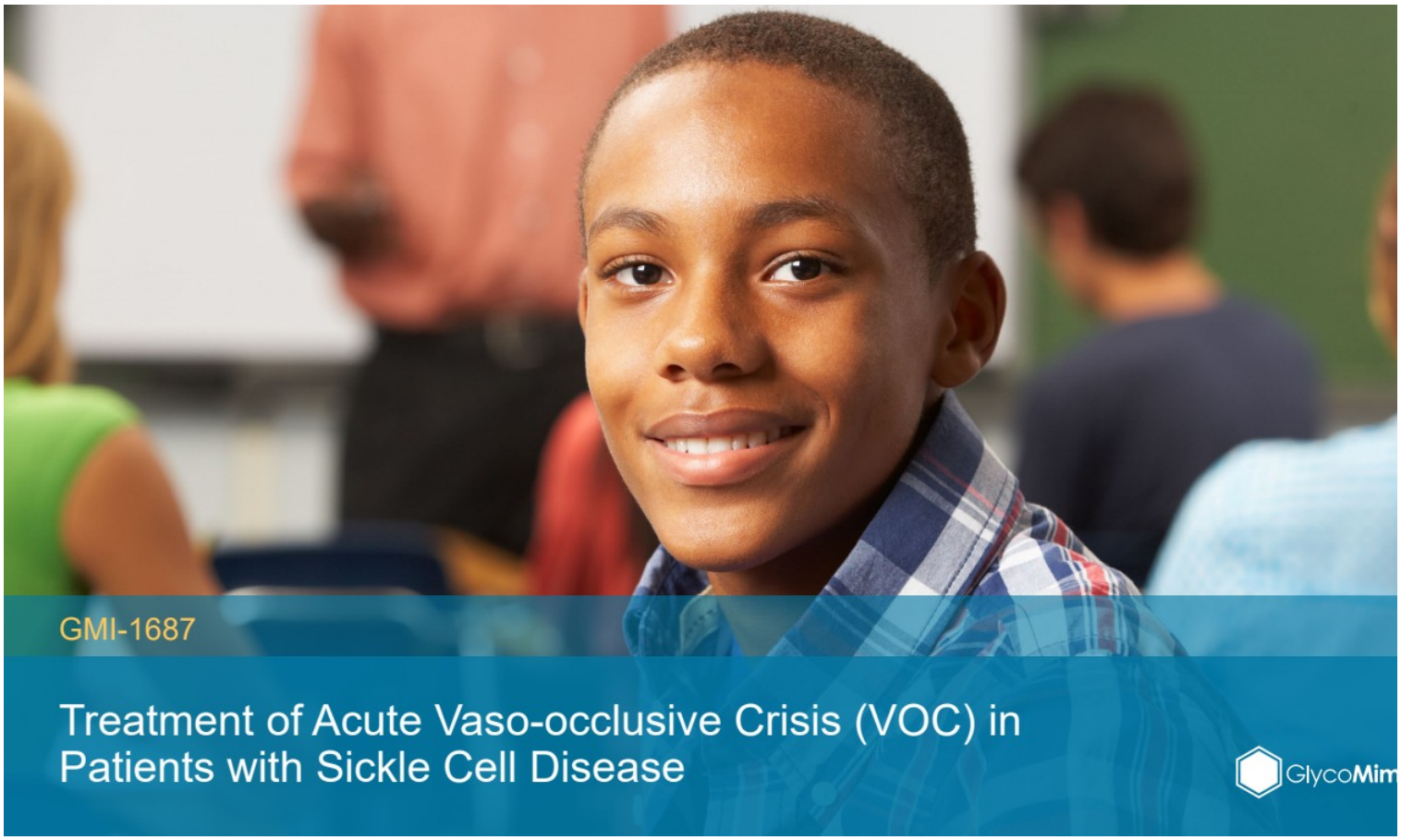
- 8 evaluable patients with poor prognosis
  - 6/8 (75%) were ELN 2017 adverse risk disease
  - 3/8 (38%) had complex cytogenetics
- Data outcomes
  - 6/8 (75%) CR/CRi
    - 5/8 (63%) full CR
    - 1/8 (13%) CRi
      - 5/8 (63%) CR/CRi responses occurred with cycle 1
  - 4 CR/CRi MFC MRD negative
    - 50% overall MRD negative rate
    - 67% among CR/CRi responders

Uproleselan added to Cladribine Plus Low Dose Cytarabine (LDAC) in Patients with Treated Secondary Acute Myeloid Leukemia (TS-AML)

Emmanuel Almanza-Huante, M.D.
Publication Number: 1448

62% ORR in very high-risk patient population

- 9 evaluable patients
  - All patients had unfavorable features by ELN 2017
- Data outcomes
  - Combination of Cladribine + LDAC with uproleselan overall well tolerated with few treatment-related AEs
  - No dose-limiting toxicities observed on dose levels -1 or 1



GMI-1687

Treatment of Acute Vaso-occlusive Crisis (VOC) in Patients with Sickle Cell Disease

GlycoMim

Significant Unmet Need Remains in SCD

Prevalence

~100K
SCD patients in the US

~1 in 365
Black Americans affected at birth

25-30yr
Reduction in average life expectancy

Symptoms

Vaso-occlusive crises (VOCs), also referred to as pain crises, are the clinical hallmark of SCD

>90%
of hospitalizations due to VOC

↑Risk of
Stroke
Acute Chest Syndrome
Renal failure

Current Treatments

Voxeletor
<1
VOC improvement per yr (From 3.19 to 2.77 VOCs/yr)

Crizanlizumab-tmca
~1
VOC improvement per yr (From to 1.6 VOCs/yr)

Centers for Disease Control and Prevention. Sickle cell disease (SCD) accessed May 4, 2021 Lanzkron S, et al. Pub 2013;128:110-116. Ballas, S.K. American Journal of Hematology DOI: 10.1002/ajh.21443. Centers for Disease Contr Prevention. Sickle cell disease (SCD) accessed Aug, 2022; Sins JWR, et al.,. Blood Adv. 2017;1(19):1598–616

Even with Prophylactic and Gene Therapy Approaches, Acute VOC Will Remain A Significant Unmet Medical Need

Prophylactic Therapies
(Approved & Selected In Development)

Voxeletor
30% reduction in VOC
(ASH 2021 Real World Data)

Hydroxyurea
50% reduction in VOC

Crizanlizumab-tmca
45% reduction in VOC
(SUSTAIN Study)

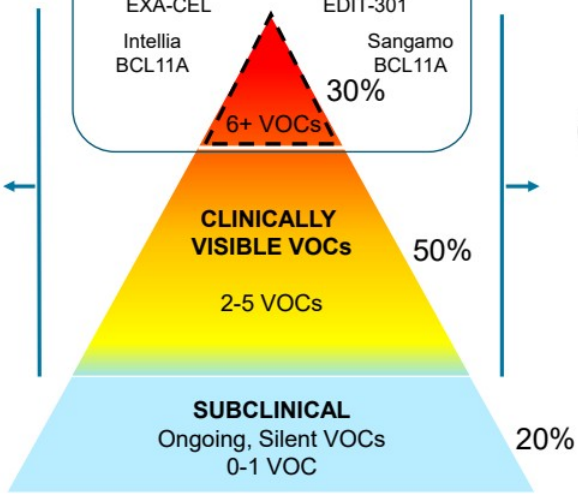
Inclacumab
P-selectin mAb
(Likely 45% reduction in VOC)

PF-07209326 (Pfizer)
E-selectin mAb
(Phase 1)

Use impacted by disparities in access to care, socioeconomic factors and toxicity (e.g. HU-myelosuppression; Advakeo – liver pathologies)

Gene Therapies
(Selected In Development)

Vertex/CRISPR EXA-CEL
EDITAS EDIT-301
Intellia BCL11A
Sangamo BCL11A



220,000 – 450,000 VOCs/year
(in the era of prophylactic therapies)

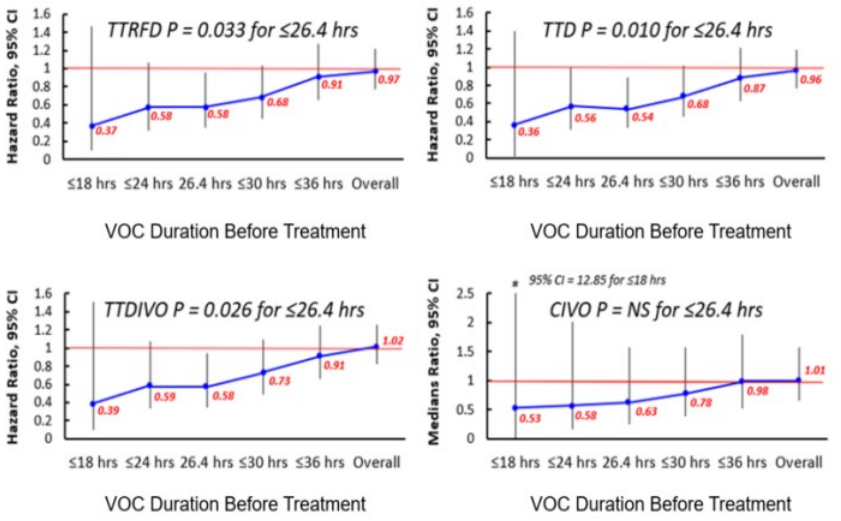
On-Demand Acute VOC Therapies
(Selected In Development)

GlycoMimetic
GMI-1687 E-selectin antagonist

Dampier et al. 2017 American Society of Hematology Annual Meeting. Abstrac
N Engl J Med 2019; 381:509-51; N Engl J Med 2017; 376:

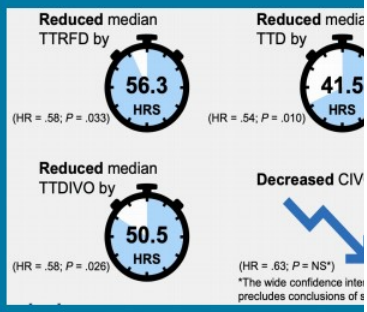
RESET

Early Intervention Resulted In Clinical Benefit



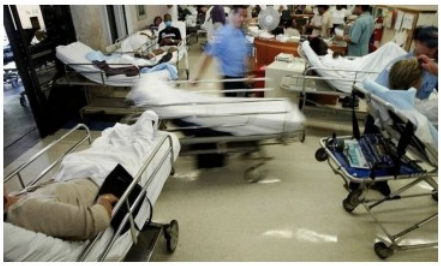
TTRD = time to readiness for discharge; TTD = time to discharge;
TTDIVO = time to discontinuation of IV opioids; CIVO = cumulative IV opioid use

For patients treated wit
first quartile of treatme
timeliness (≤26.4hrs),
meaningful, statistical
significant benefit was s
across study endpoin



T. Wun, ASH 2020

GMI-1687 leverages years of research to empower patients to take control of their disease

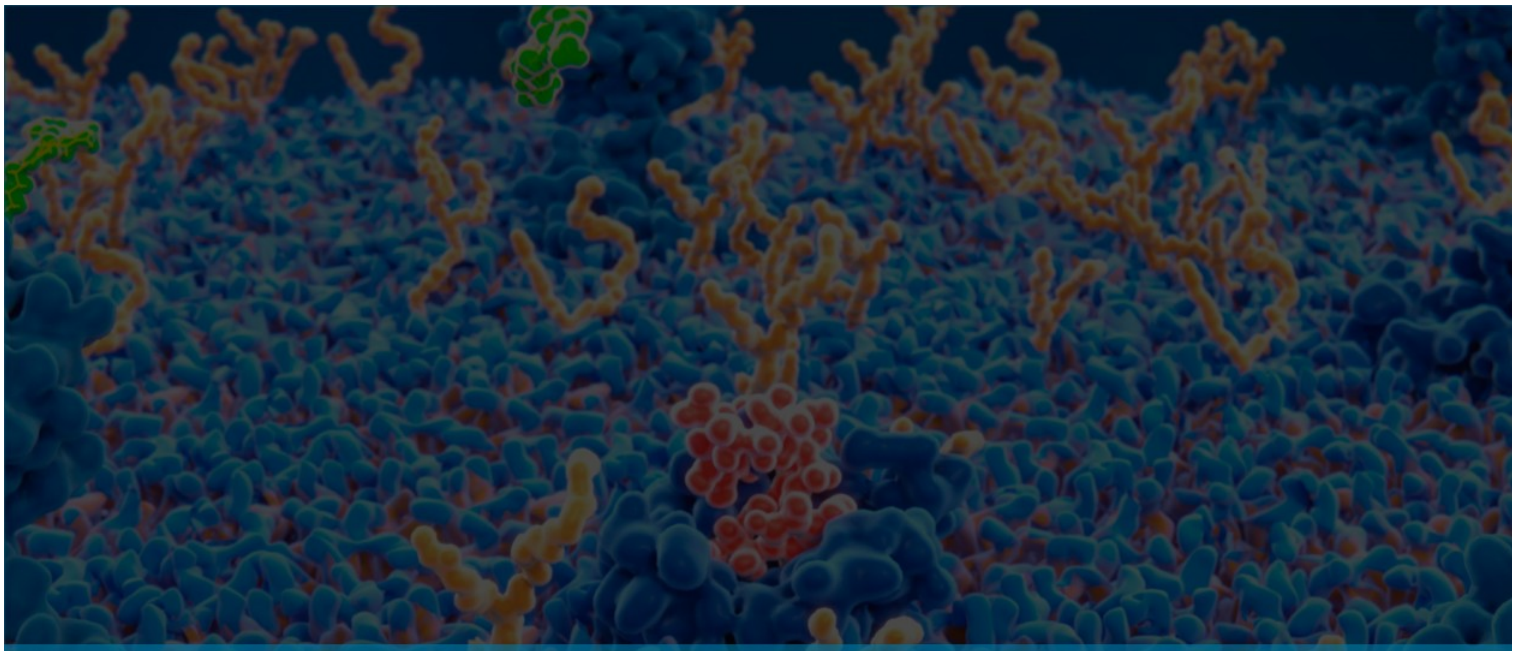


Potentially changing the treatment paradigm to convenient, early, on-demand disease modifying therapy

Lessons Learned	GMI-1687
E-selectin drives acute VOC[1]	• **Fast-acting**, small molecule inhibitor against E-selectin to block endothelial activation and multicellular adhesion that are the foundation of acute VOC • ≥500-fold more potent than rivipansel
Treatment early during VOC is critical	• Patients (or caregiver) can potentially **self-administer** GMI-1687 via an autoinjector upon recognition of an acute VOC episode • 100% bioavailable following subcutaneous administration
Too little, too late - must give full doses	• **Optimize dose and regimen** based on reductions in sE-selectin – drive and sustain • Agreed to as part of FDA Pre-IND Meeting

FDA "Safe to Proceed" Clearance for IND in June 2022

[1] Morikis et al, Frontiers in Immunology, April 2021, Vol. 12, Artic



GALECTIN-3 INHIBITORS

Potential Treatments in Oncology, Inflammation and Fibrosis

GlycoMim

GALECTIN-3 ANTAGONISTS
Highly Potent and Highly Differentiated

- Target: Galectin-3 carbohydrate-binding protein
  - GMI-2093 development candidate
- Relevance: Central role in fibrosis and cancer
  - Inflammation, aberrant cell activation/proliferation, fibrogenesis
  - Blockade may prevent/reverse fibrosis following organ damage
  - Antifibrotic/antitumor activity in various disease models
- Chemistry: Rationally designed with proprietary platform
- Differentiation: Compounds have high binding affinity and specificity for Galectin-3
- Orally bioavailable

Glycol

The Promise of Targetin
The Galectins:

Modulating The Immune
And Inflammatory
Response to Cancer an
Fibrosis

Pioneers in glycobiology-based therapies for cancers and other rare diseases

Strong Foundation with Near-Term Catalysts and Broad Pipeline

Uproleselan: Multiple Late-Stage Clinical Trials

- **Fully enrolled Phase 3 trial** in R/R AML (n=388), OS events trigger currently projected for **~1H-2024**
- **Fully enrolled Phase 2 trial** in front-line AML (n=267) ongoing, **NCI-sponsored**
- **Ongoing ISTs** in other AML populations. Preliminary data presented at ASH 2022
- **Novel MOA** → potential **broad utility** with **Breakthrough Therapy**, **Fast Track**, and **Orphan** designations

Broad Early-Stage Pipeline

- Novel small molecules inhibit carbohydrate signaling
- **GMI-1687**
  - Targets sickle cell pain crises
  - Cleared FDA 30-day IND review
- **GMI-2093**
  - Targeting fibrotic diseases
  - First oral Galectin-3 antagonist

Targeted Operational Execution

- **Recent Key Leadership Hires** → purpose-driven biotechnology team
- **Deep expertise** in regulatory, medical and commercialization across hem/onc therapies


GlycoMimetics
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