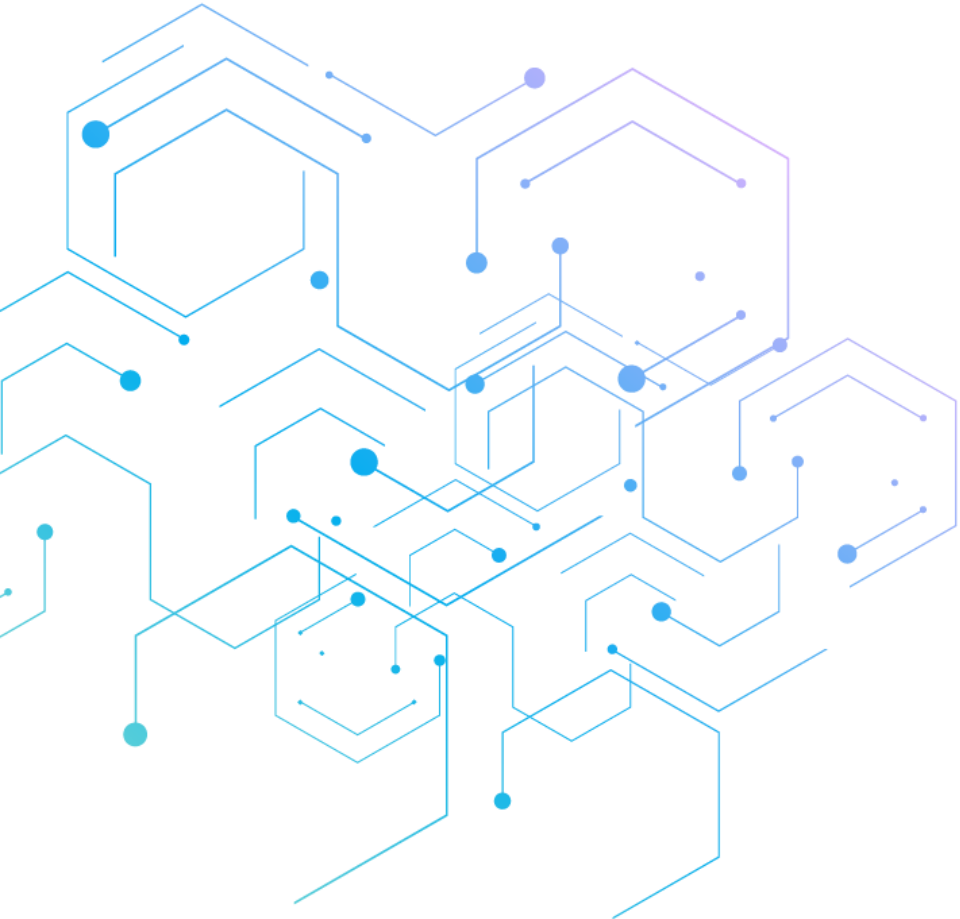


# Results of Pivotal Phase 3 Trial of Uproleselan in Relapsed/Refractory (R/R) Acute Myeloid Leukemia (AML)

# 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,” or “our”). Forward-looking statements contained in this presentation may include, but are not limited to: (i) potential indications, benefits and impact of our drug candidates, including uproleselan; (ii) our plans for interactions with regulatory authorities; (iii) business and product development strategies, including potential partnering activities for our programs; (iv) our projected cash runway; and (v) 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, which 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, whether results of early clinical trials will be indicative of results from later clinical trials, changes in the regulatory environment for our drug candidates, failure 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 risks associated with forward-looking statements, as well as other risks facing GlycoMimetics, please see the risk factors described in the Company’s Annual Report on Form 10-K filed with the U.S. Securities and Exchange Commission (SEC) on March 27, 2024; the Company’s Quarterly Report on Form 10-Q filed with the SEC on May 9, 2024; 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.

# Welcome & Introduction

**Harout Semerjian**  
President and Chief Executive Officer



# Event Agenda

## Welcome & Introduction

Harout Semerjian, President and Chief Executive Officer

## Trial Overview: Pivotal Phase 3 Trial of Uproleselan in R/R AML

Edwin Rock, M.D., Ph.D., Chief Medical Officer

## Trial Results: Pivotal Phase 3 Trial of Uproleselan in R/R AML

Dan DeAngelo, M.D., Ph.D., Dana-Farber Cancer Institute

## Path Forward

Harout Semerjian, President and Chief Executive Officer

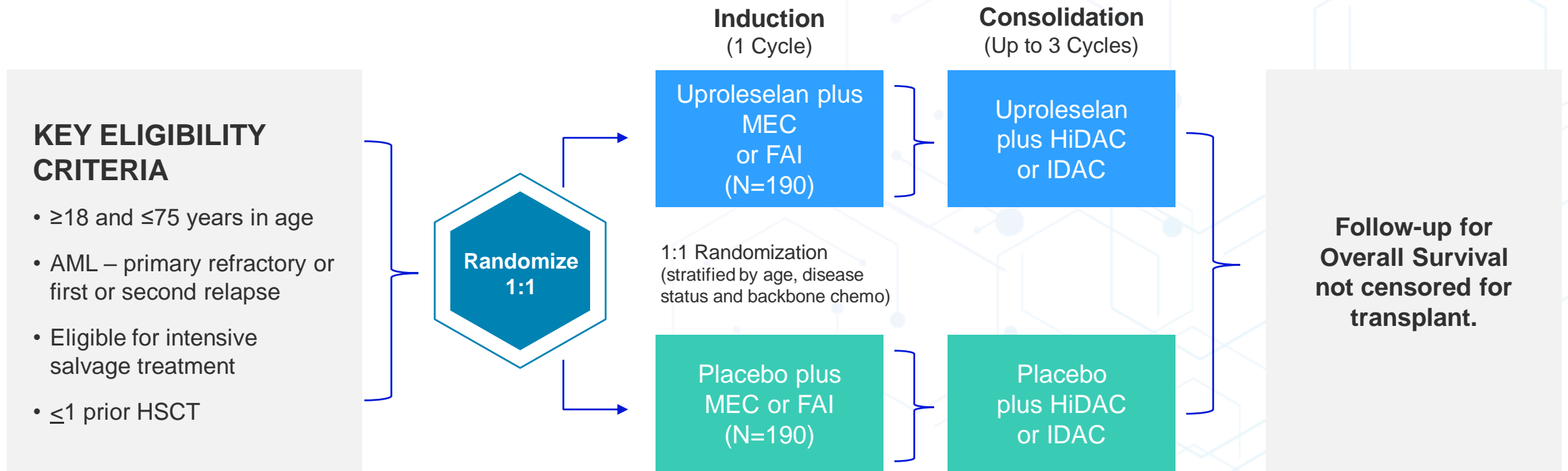
## Question and Answer

# Trial Overview: Pivotal Phase 3 Trial of Uproleselan in R/R AML

**Edwin Rock, M.D., Ph.D.**  
Chief Medical Officer



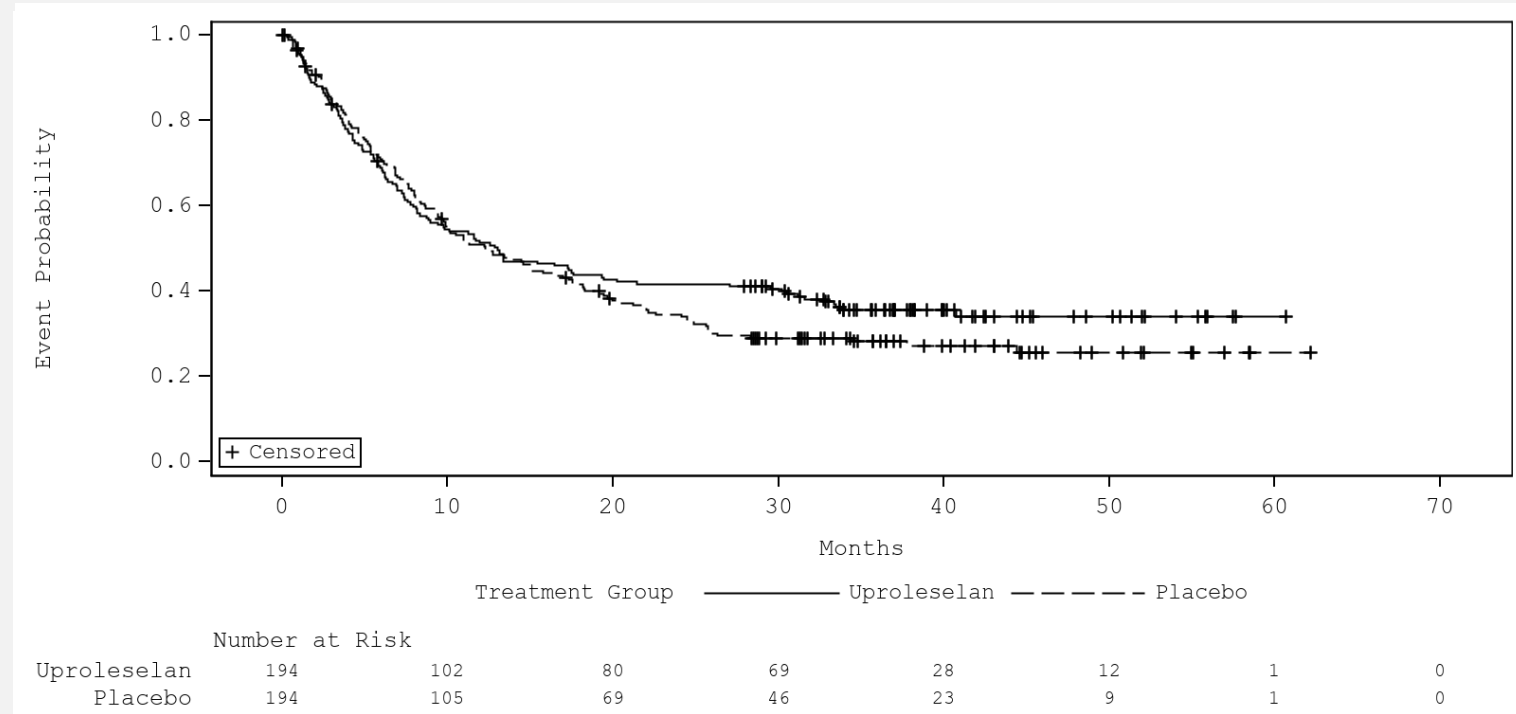
# 301 Trial Has Enrolled 388 Relapse and Refractory AML Patients, and is One of the Longest Randomized Placebo-Controlled AML Trials, Running from 2018 to 2024



**Enrollment Completed in November 2021; Data Cutoff end Q1 2024, Topline Results Reported in Q2 2024**

# Median Overall Survival (mOS) in the Intent-To-Treat (ITT) Population was 13.0 Months versus 12.3 Months; Statistical Significance was not Achieved

## Overall Survival (months)



Statistic	Uproleselan (N=194)	Placebo (N=194)	Hazard Ratio, 95% CI	P-value
Events (%)	121 (62.4)	138 (71.1)		
Censored (%)	73 (37.6)	56 (28.9)		
Median	13.0	12.3	<b>0.89</b>	
95% CI	8.7 - 19.4	9.6 - 17.3	<b>0.69 - 1.15</b>	<b>0.3869</b>

# Additional Endpoints Including CR MRD- Trended Favorably for Uproleselan vs. Placebo

Additional Endpoints	Uproleselan N=194 (%)	Placebo N=194 (%)	Treatment Difference	P-value
Induction Emergent Severe Oral Mucositis	14 (7.2)	14 (7.2)	0.0	0.9830
Complete Remission (CR), EOI / IERC	70 (36.1)	65 (33.5)	2.6	0.6236
Remission (CR/CRh), EOI / IERC	90 (46.4)	80 (41.2)	5.2	0.2437
Post-Treatment Stem Cell Transplant Rate (All)	101 (52.1)	99 (51.0)	1.0	0.8638
MRD- CR, EOI / IERC (n=70 / n=65)	47 (67.1)	40 (61.5)	--	--



Trial Results:  
Pivotal Phase 3 Trial of  
Uproleselan in R/R AML

Daniel J. DeAngelo, M.D., Ph.D.,  
Dana-Farber Cancer Institute



# 301 Trial Captured Significant Data Across a Range of Categories Informing Relationship of Factors Impacting Survival Outcomes

## Randomization Strata

### Backbone Chemotherapy

MEC (N=194) vs FAI (N=194)

### Disease Status

Primary Refractory (N=128)  
Early Relapse (N=50)  
Late Relapse (N=210)

### Age

<60 years (N=218)  
≥60 years (N=170)

## Depth of Response and Transplant

### MRD- Status

(N=144)

### Transplantation Status

Yes (N=200)  
No (N=188)

## Safety and Tolerability

### AEs & Serious TEAEs



# Uproleselan Survival Results Vary by Stratification Factors And Other Subgroups

Overall Survival Subgroups	Hazard Ratio (95% CI)
<b>Age</b>	
• < 60 years	0.79 (0.55 - 1.12)
• ≥ 60 years	1.03 (0.71 - 1.48)
<b>Backbone Chemotherapy</b>	
• MEC	1.06 (0.75 – 1.51)
• FAI	0.73 (0.50 – 1.06)
<b>BL Disease Status</b>	
• Primary Refractory	0.58 (0.37 - 0.91)
• Relapse ≤ 6 months	1.50 (0.69 - 3.27)
• Relapse > 6 months	1.10 (0.77 - 1.57)

Overall Survival Subgroups	Hazard Ratio (95% CI)
<b>Disease Response</b>	
• CR	0.92 (0.54 - 1.59)
• CR/CRh	1.01 (0.64 – 1.60)
<b>Post-Treatment Transplant (All)</b>	
• Yes	0.59 (0.38 - 0.91)
• No	1.42 (1.01 - 2.00)
<b>MRD Status at EOI</b>	
• Negative	0.49 (0.28 – 0.84)
• Positive	1.27 (0.85 – 1.90)

# 301 Trial Captured Significant Data Across a Range of Categories Informing Relationship of Factors Impacting Survival Outcomes

## Randomization Strata

### Backbone Chemotherapy

MEC (N=194) vs FAI (N=194)

### Disease Status

Primary Refractory (N=128)  
Early Relapse (N=50)  
Late Relapse (N=210)

### Age

<60 years (N=218)  
≥60 years (N=170)

## Depth of Response and Transplant

MRD- Status  
(N=144)

### Transplantation Status

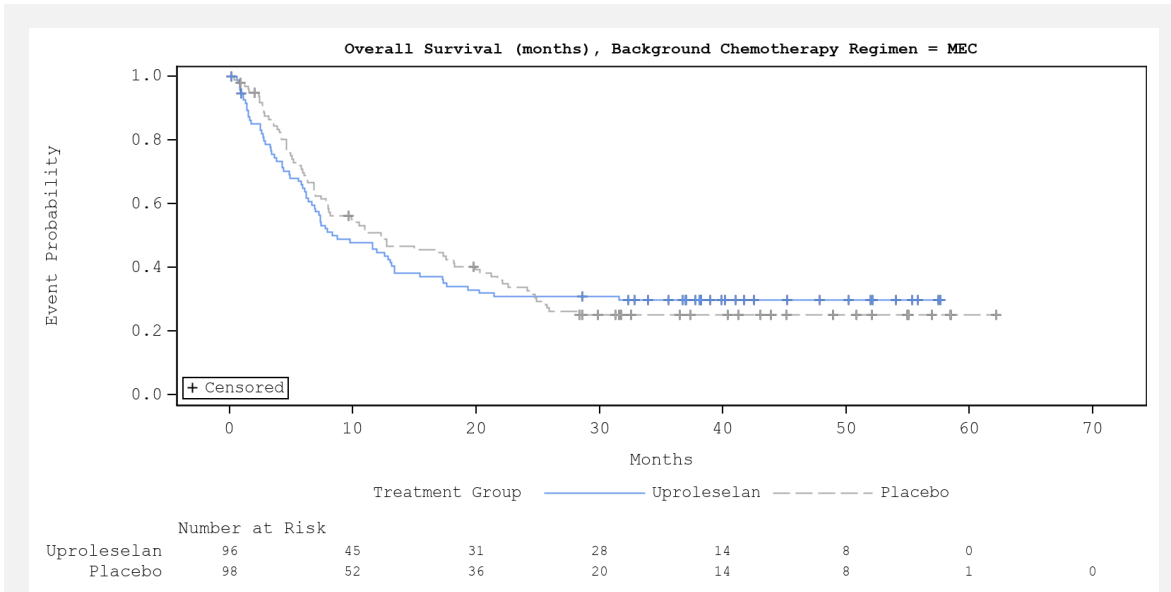
Yes (N=200)  
No (N=188)

## Safety and Tolerability

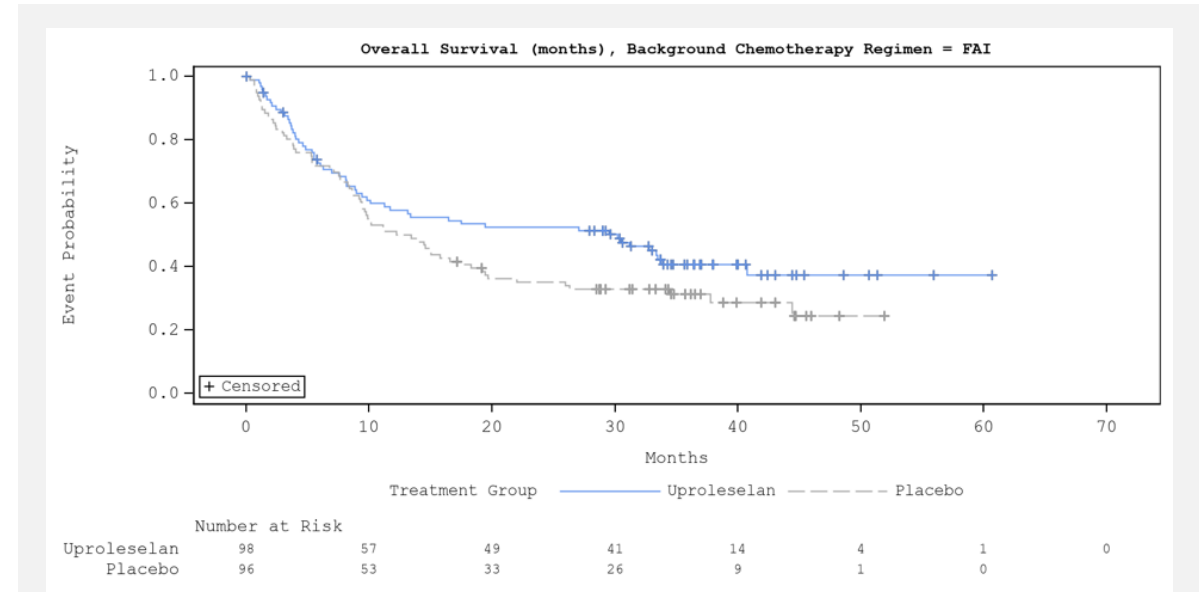
AEs & Serious TEAEs

# mOS in Patients Treated with Uproleselan plus FAI was 30.2 Months vs. 12.8 Months with FAI alone; No Significant Difference in mOS Observed Between Uproleselan/Placebo in MEC Treated Patients

## OS by Subgroups: MEC vs FAI



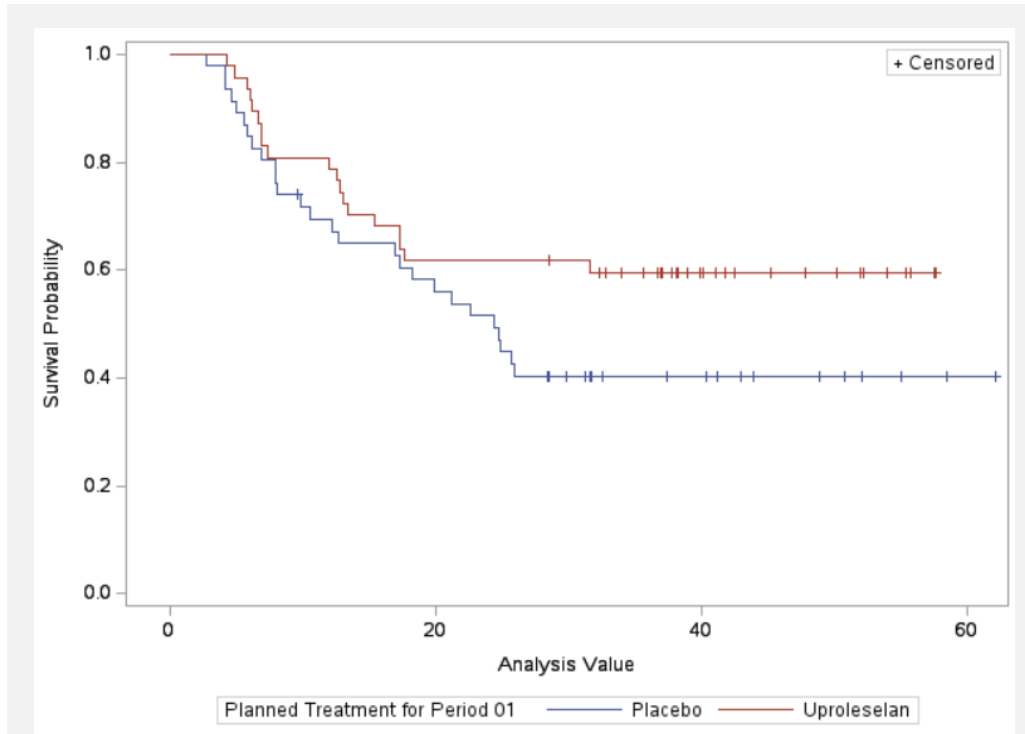
MEC	Uproleselan (N = 96)	Placebo (N = 98)	Hazard Ratio 95% CI
Events (%)	66 (68.8)	71 (72.4)	
Censored (%)	30 (31.3)	27 (27.6)	
Median	8.7	12.3	<b>1.06</b>
95% CI	6.7 - 13.4	7.8 - 19.9	<b>0.75 - 1.51</b>



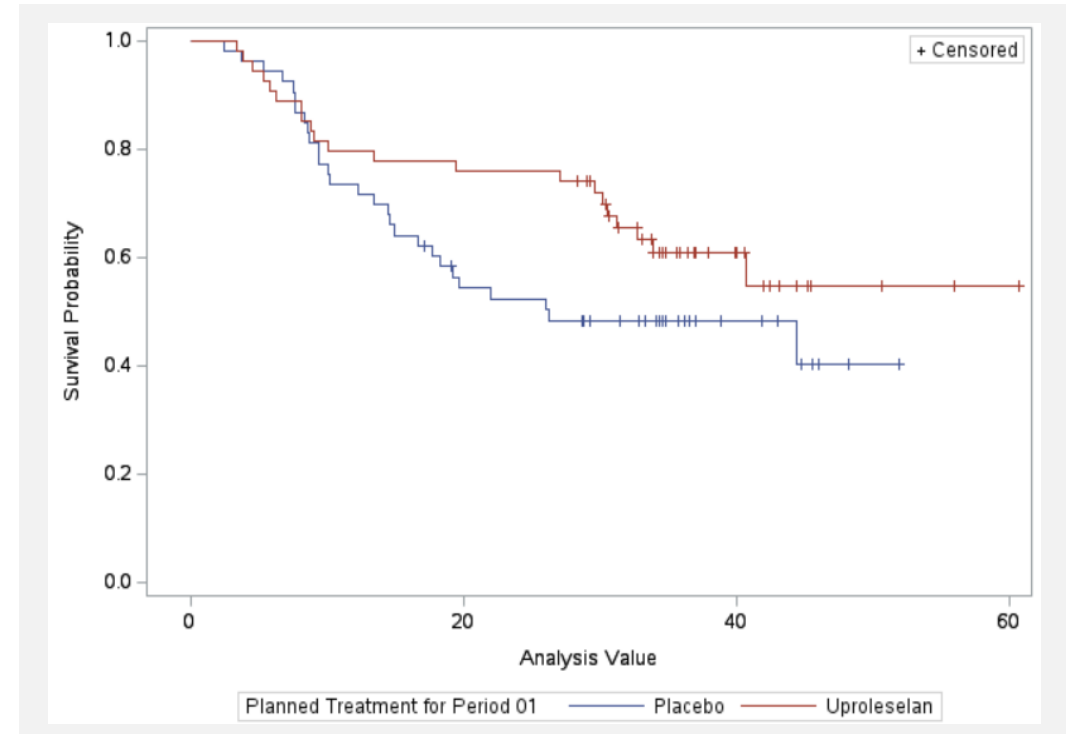
FAI	Uproleselan (N = 98)	Placebo (N = 96)	Hazard Ratio 95% CI
Events (%)	55 (56.1)	67 (69.8)	
Censored (%)	43 (43.9)	29 (30.2)	
Median	30.2	12.8	<b>0.73</b>
95% CI	10.1 - 40.7	9.3 - 18.3	<b>0.50 - 1.06</b>

# mOS in Transplanted Patients Treated with Uproleselan was Not Reached, Regardless of Backbone Chemotherapy

## OS by Subgroups: Transplant, MEC and FAI



MEC Transplant	Uproleselan (N = 47)	Placebo (N = 46)
Median (mo.)	<b>Not Reached</b>	<b>24.44</b>
HR (95% CI)	<b>0.52 (0.28 – 0.97)</b>	



FAI Transplant	Uproleselan (N = 54)	Placebo (N = 53)
Median (mo.)	<b>Not Reached</b>	<b>26.28</b>
HR (95% CI)	<b>0.66 (0.35 – 1.23)</b>	

# 301 Trial Captured Significant Data Across a Range of Categories Informing Relationship of Factors Impacting Survival Outcomes

## Randomization Strata

### Backbone Chemotherapy

MEC (N=194) vs FAI (N=194)

### Disease Status

Primary Refractory (N=128)  
Early Relapse (N=50)  
Late Relapse (N=210)

### Age

<60 years (N=218)  
≥60 years (N=170)

## Depth of Response and Transplant

MRD- Status  
(N=144)

### Transplantation Status

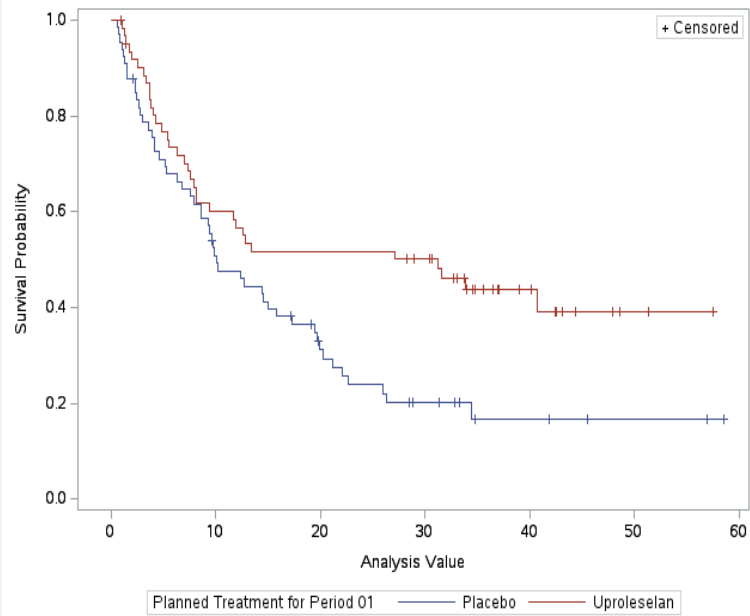
Yes (N=200)  
No (N=188)

## Safety and Tolerability

AEs & Serious TEAEs

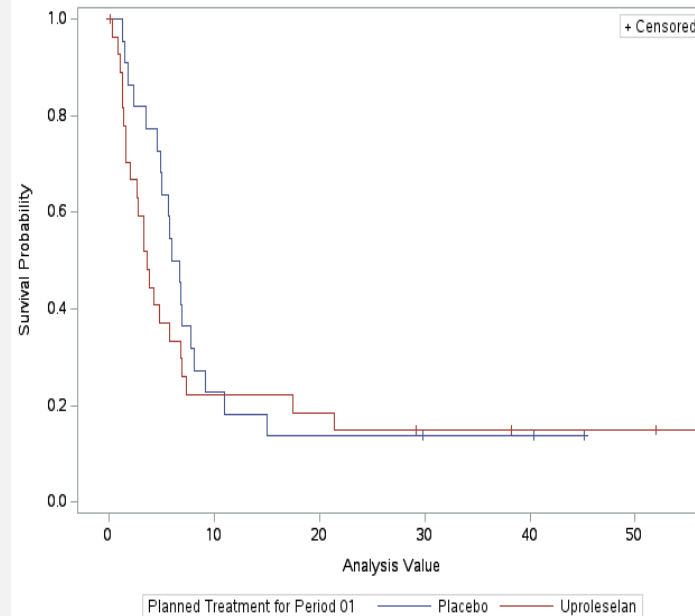
# Primary Refractory Patients Treated with Uproleselan had mOS of 31 Months vs 10 Months with Chemotherapy Alone; this Benefit was not Observed with Uproleselan in Early/Late Relapse Patients

## Primary Refractory



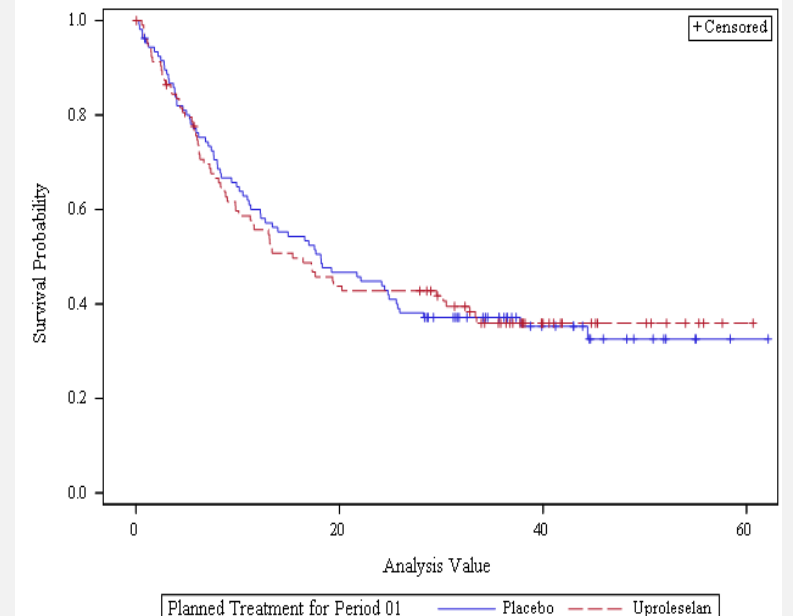
Statistic	Uproleselan (N = 62)	Placebo (N = 66)
Median	31.18	10.09
95% CI	8.08 – NE	7.95 – 15.77
HR (CI)	<b>0.58 (0.37 – 0.91)</b>	

## Early Relapse



Statistic	Uproleselan (N = 28)	Placebo (N = 22)
Median	3.65	6.39
95% CI	1.64 – 6.87	4.57 – 8.15
HR (CI)	<b>1.50 (0.69 – 3.27)</b>	

## Late Relapse



Statistic	Uproleselan (N = 104)	Placebo (N = 106)
Median	15.41	18.17
95% CI	9.79 – 30.19	12.22 – 25.59
HR (CI)	<b>1.10 (0.77 – 1.57)</b>	



# Clinically Meaningful Response Rates and Duration in Primary Refractory Patients

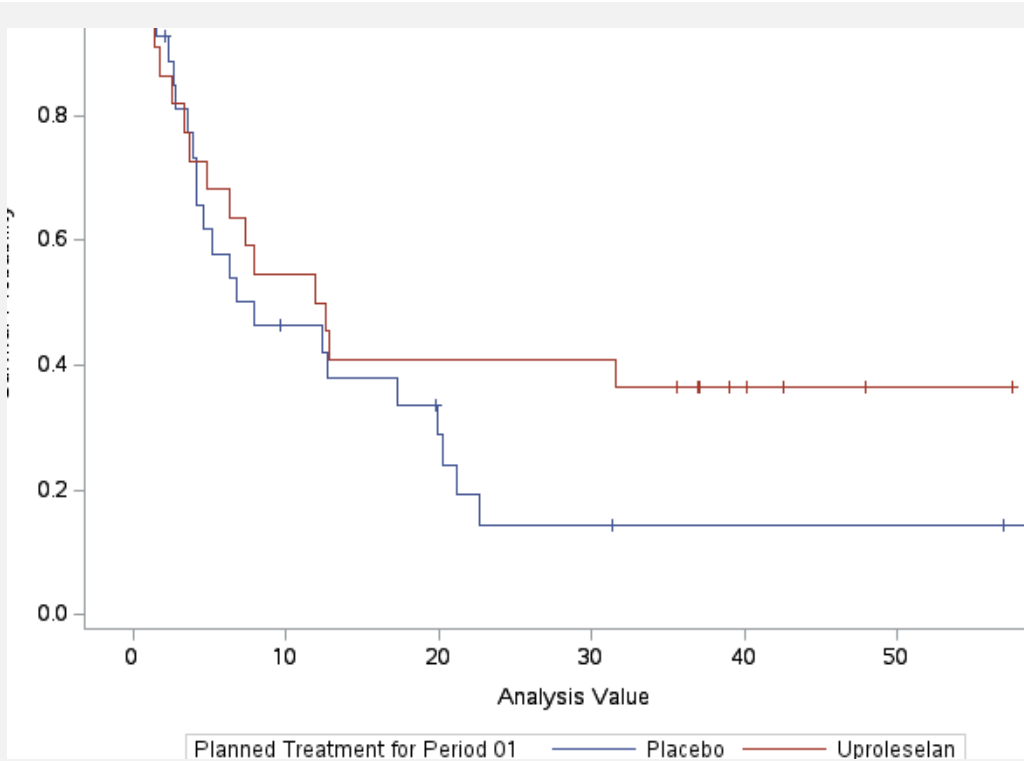
Response Rates in Primary Refractory Patients				
Endpoint	Uproleselan (N = 62)	Placebo (N = 66)	Treatment Difference 95% CI	P-value
<b>Complete Remission (CR) Rate at EOI (IERC)</b>				
n (%)	20 (32.3)	18 (27.3)	5.0	
95% CI	20.9 – 45.3	17.0 – 39.6	-10.7 – 20.4	<b>0.5424</b>
<b>Remission (CR/CRh) rate at EOI (IERC)</b>				
n (%)	24 (38.7)	23 (34.8)	3.9	
95% CI	26.6 – 51.9	23.5 – 47.6	-12.5 – 20.1	<b>0.6801</b>

Response Rates Trending in Favor of Uproleselan vs. Placebo

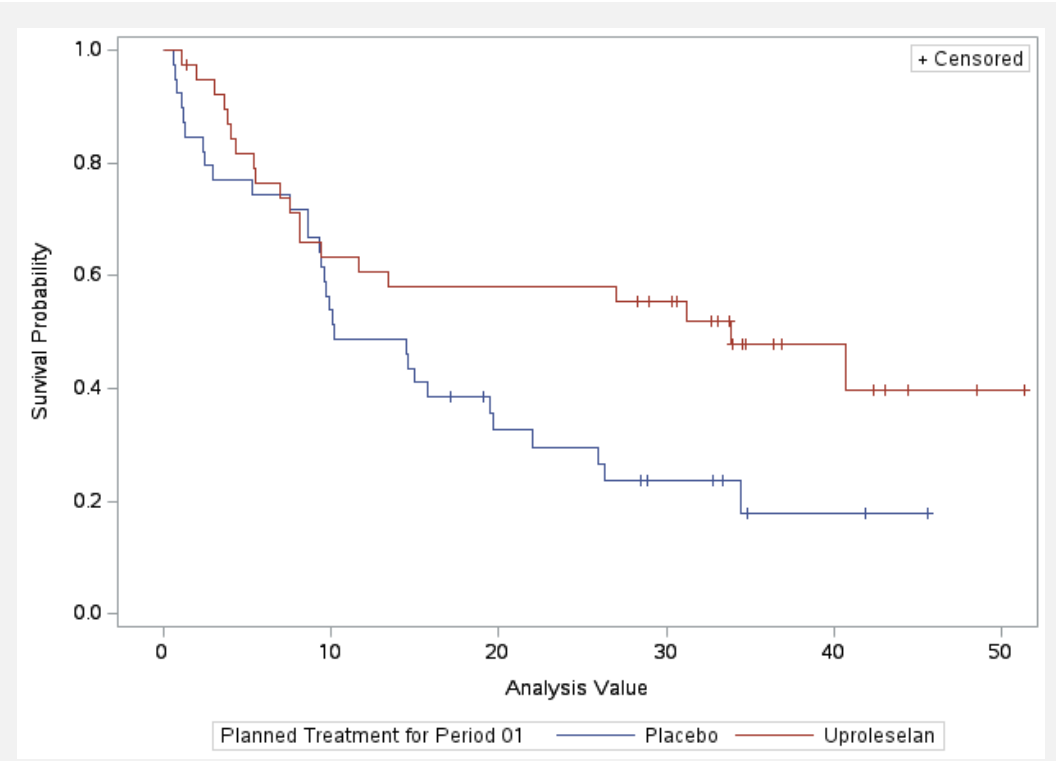
Duration of Response (DoR) in Primary Refractory Patients			
	Uproleselan (N = 62)	Placebo (N = 66)	Hazard Ratio
<b>CR</b>			
Achieved	20	18	
Events* (%)	6 (30.0)	14 (77.8)	
Median DoR	<b>Not Reached</b>	<b>12.7</b>	<b>0.26</b>
95% CI	4.4 – NE	3.7 – 27.6	<b>0.09 – 0.75</b>
<b>CR/CRh</b>			
Achieved	24	23	
Events* (%)	7 (29.2)	17 (73.9)	
Median DoR	<b>Not Reached</b>	<b>12.7</b>	<b>0.26</b>
95% CI	33.8 – NE	3.7 – 25.2	<b>0.10 – 0.67</b>

Median Duration of Response was Not Reached in the Uproleselan Arm

# Primary Refractory Patients Achieve Greater mOS with Uproleselan Regardless of Backbone Chemotherapy; this Benefit was Particularly Significant in FAI plus Uproleselan

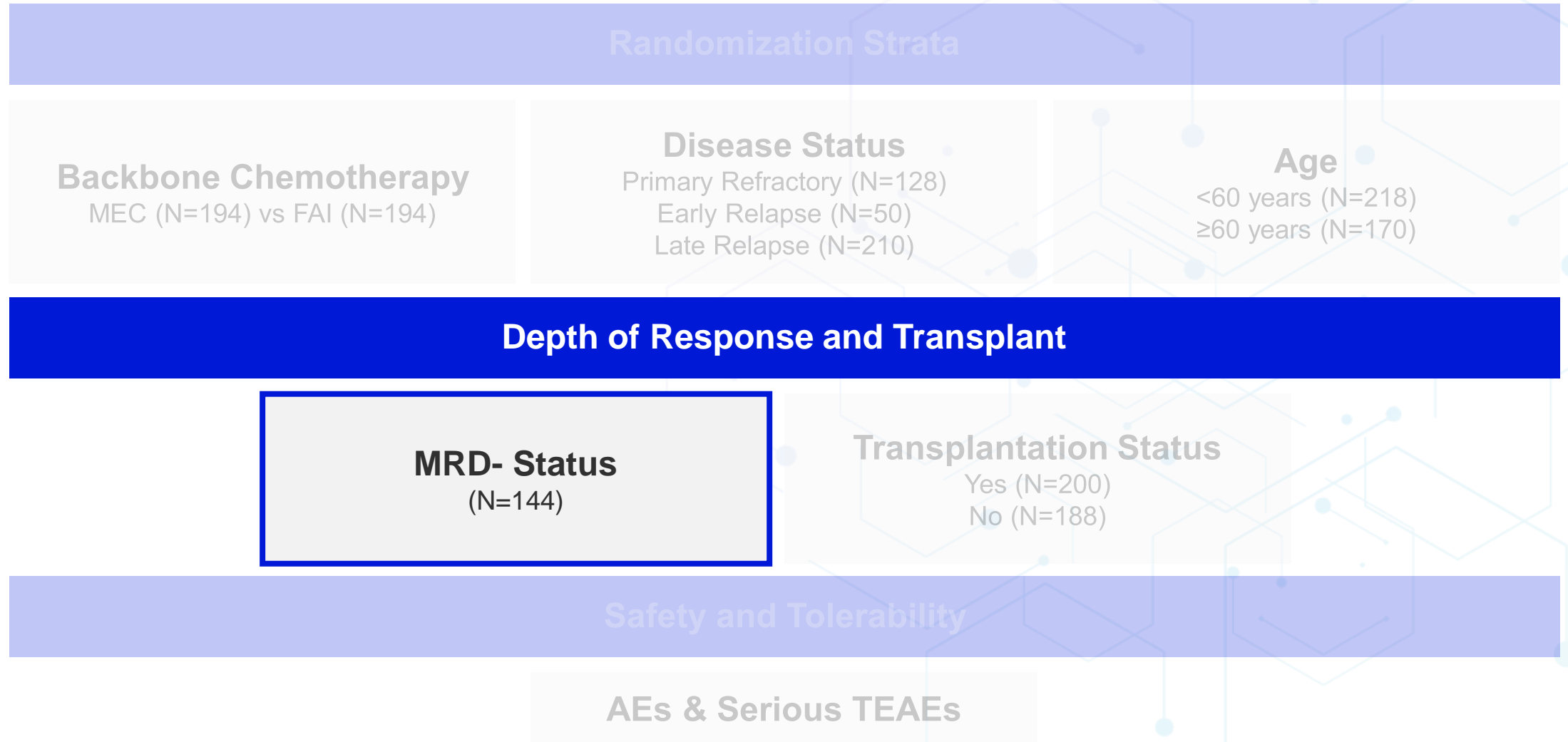


MEC	Uproleselan (N = 23)	Placebo (N = 27)
Median	12.2	8.0
95% CI	3.6 – NE	4.1 – 19.9
HR (CI)	<b>0.68 (0.34 – 1.38)</b>	

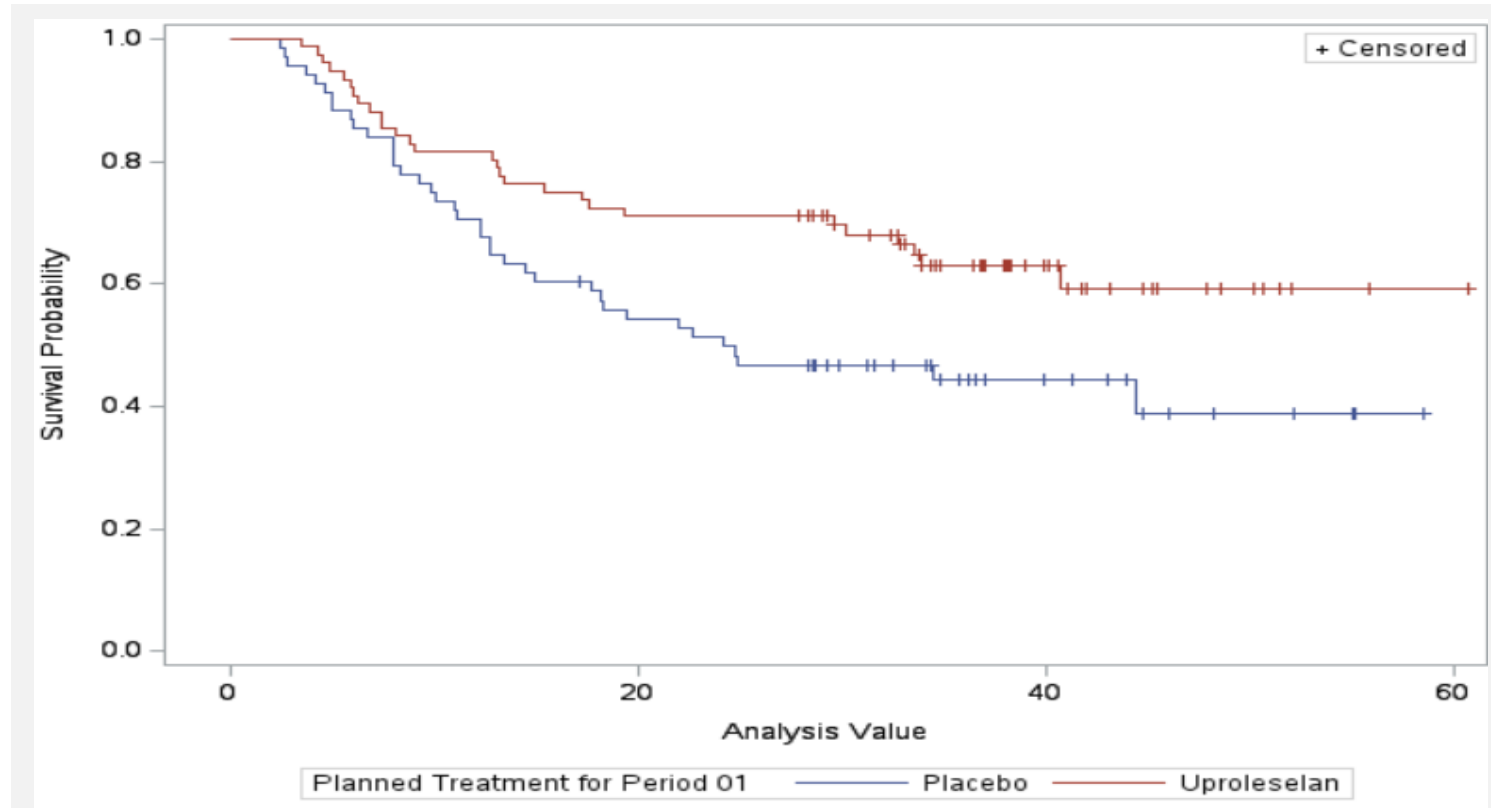


FAI	Uproleselan (N = 39)	Placebo (N = 39)
Median	33.8	10.2
95% CI	8.1 – NE	8.6 – 19.7
HR (CI)	<b>0.53 (0.30 – 0.93)</b>	

# 301 Trial Captured Significant Data Across a Range of Categories Informing Relationship of Factors Impacting Survival Outcomes



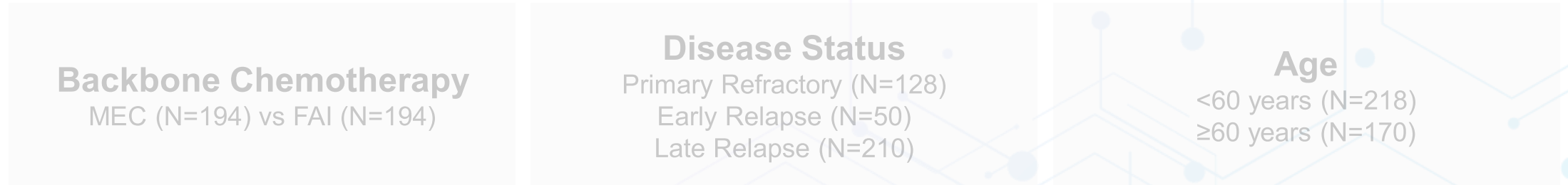
# Patients Achieving MRD- Status at EOI had mOS > 2 years; mOS in Uproleselan Treated Patients Not Reached, Regardless of Backbone Chemotherapy



Statistic	Uproleselan (N = 76)	Placebo (N = 68)
Median	Not Reached	24.1
95% CI	40.7 – NE	14.5 – NE
HR (CI)	<b>0.49 (0.28 – 0.84)</b>	

# 301 Trial Captured Significant Data Across a Range of Categories Informing Relationship of Factors Impacting Survival Outcomes

## Randomization Strata



## Depth of Response and Transplant

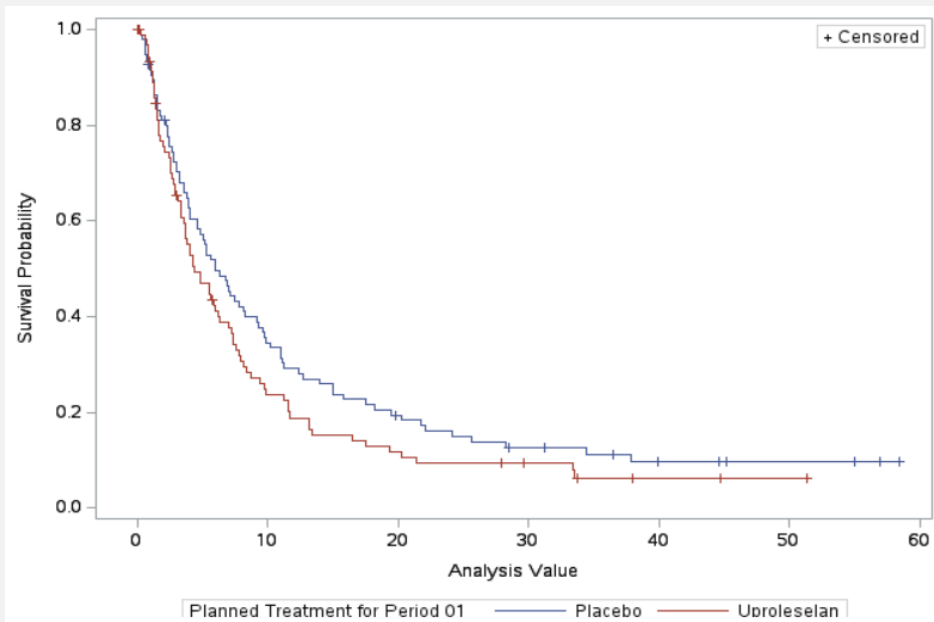


## Safety and Tolerability



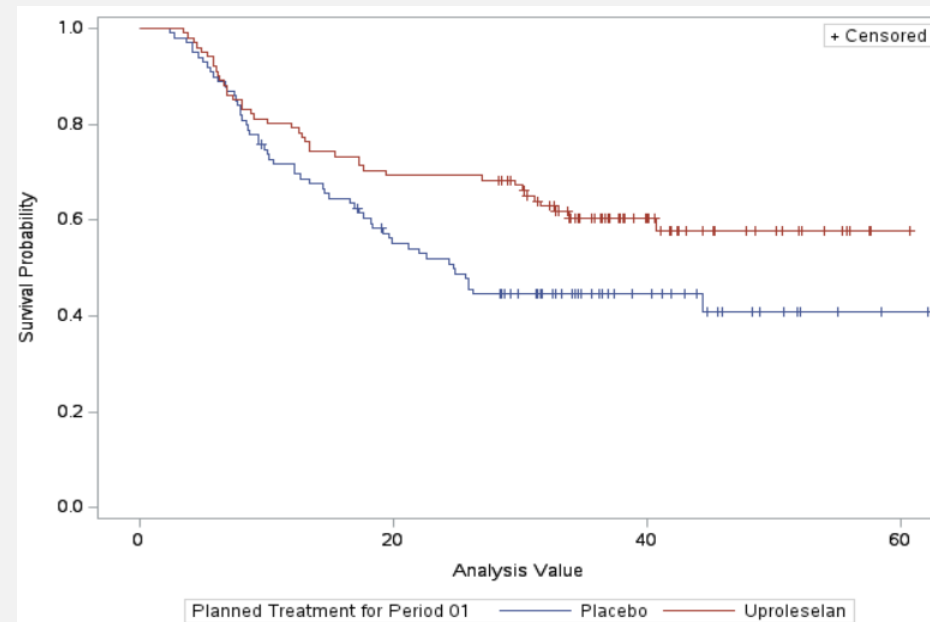
# Transplanted Patients Achieved mOS > 2 Years; mOS in Uproleselan Treated Patients who Received Transplant was Not Reached

## No Transplant



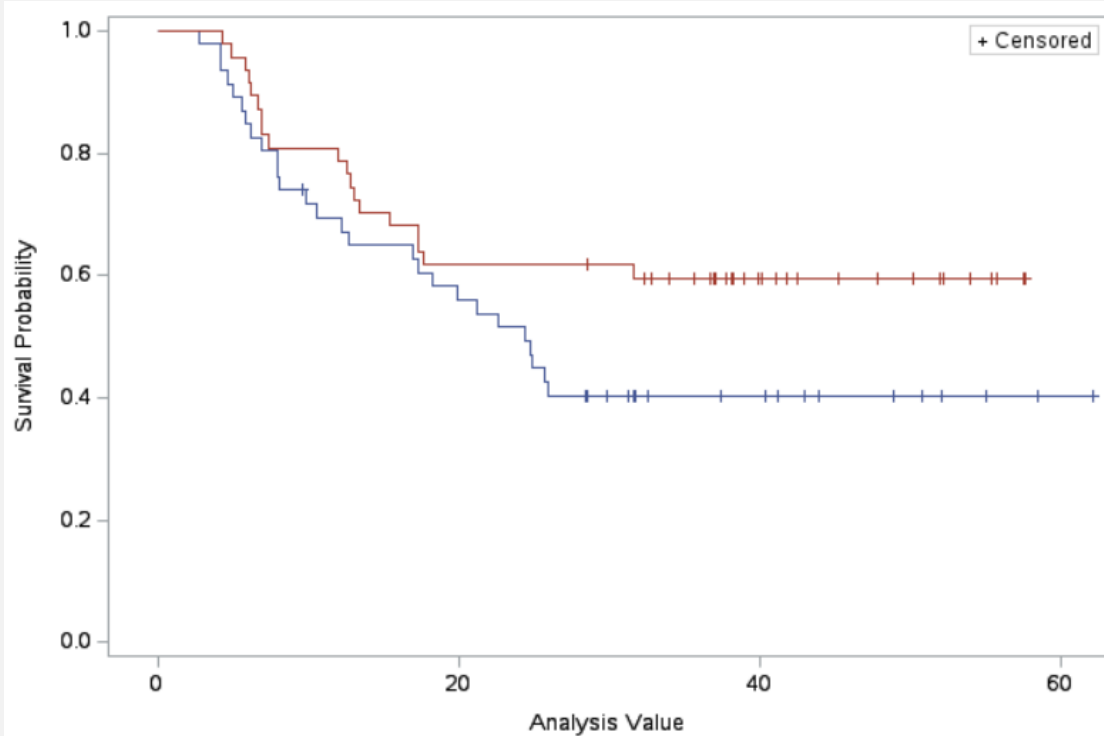
No Transplant	Uproleselan (N = 93)	Placebo (N = 95)	Hazard Ratio
Events (%)	81 (87.1)	83 (87.4)	
Censored (%)	12 (12.9)	12 (12.6)	
Median	4.3	6.0	<b>1.42</b>
95% CI	3.4 – 6.3	4.0 – 8.3	<b>1.01 – 2.00</b>

## Transplant



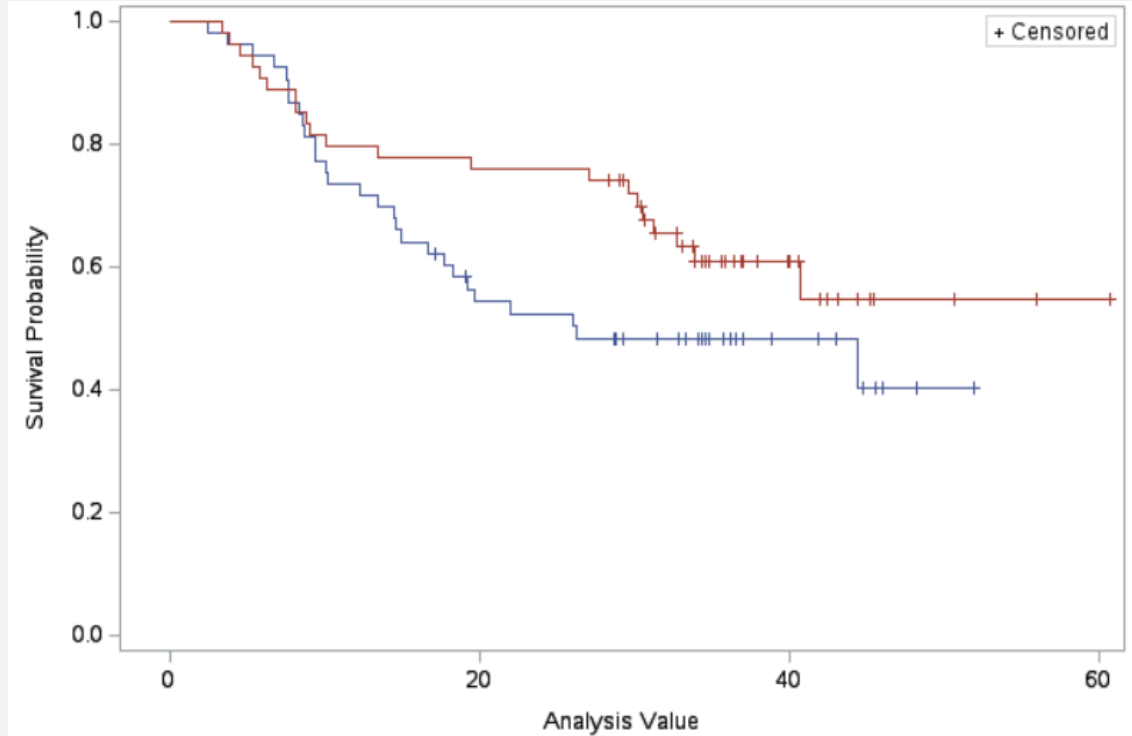
Transplant	Uproleselan (N = 101)	Placebo (N = 99)	Hazard Ratio
Events (%)	40 (39.6)	55 (55.6)	
Censored (%)	61 (60.4)	44 (44.4)	
Median	Not Reached	24.8	<b>0.59</b>
95% CI	40.7 – NE	17.7 – NE	<b>0.38 – 0.91</b>

# mOS Not Reached in Uproleselan Treated Patients who Received Transplant, Regardless of Backbone Chemotherapy



Planned Treatment for Period 01 — Placebo — Uproleselan

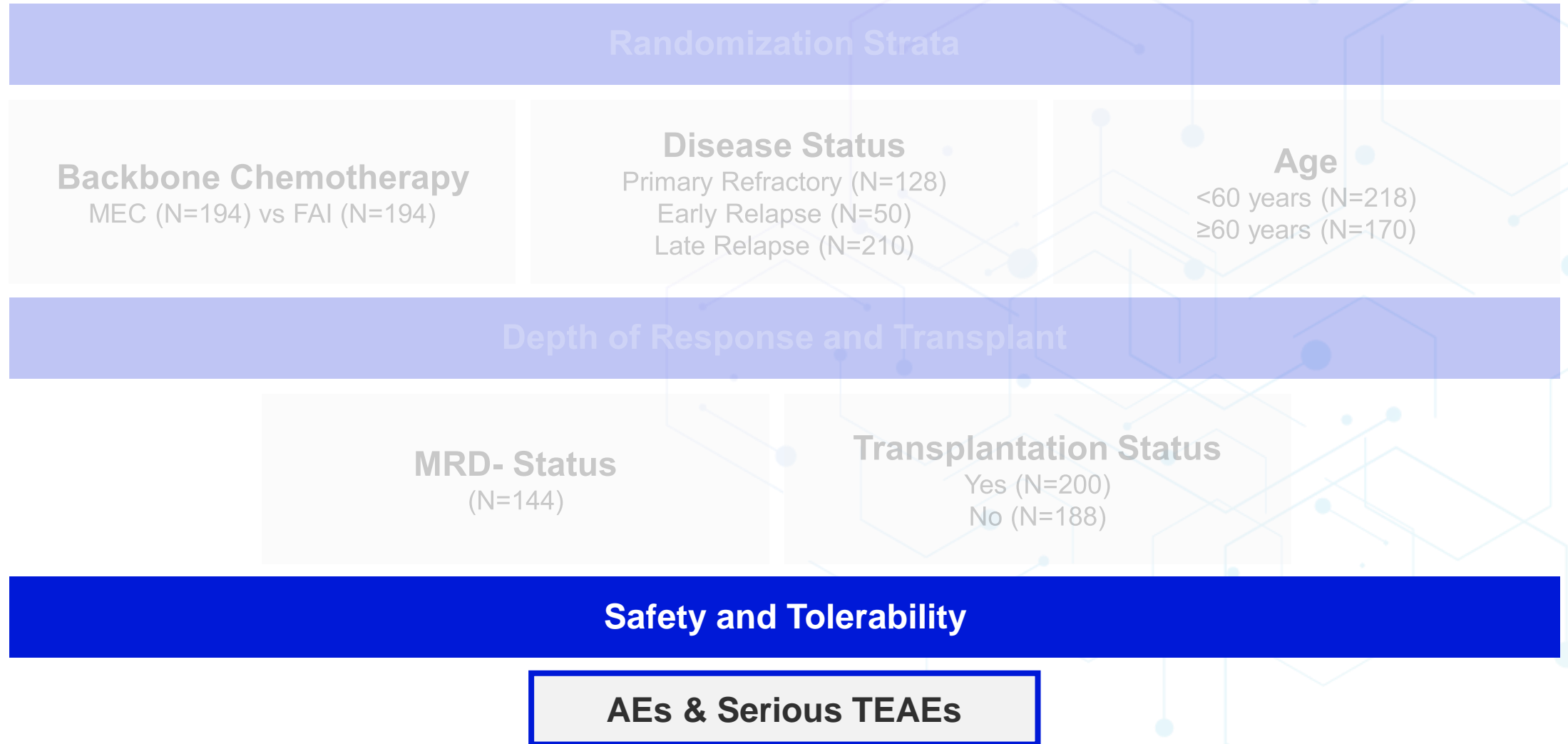
MEC Transplant	Uproleselan (N = 47)	Placebo (N = 46)
Median (mo.)	Not Reached	24.44
HR (95% CI)	0.52 (0.28 – 0.97)	



Planned Treatment for Period 01 — Placebo — Uproleselan

FAI Transplant	Uproleselan (N = 54)	Placebo (N = 53)
Median (mo.)	Not Reached	26.28
HR (95% CI)	0.66 (0.35 – 1.23)	

# 301 Trial Captured Significant Data Across a Range of Categories Informing Relationship of Factors Impacting Survival Outcomes





# Adverse Events Consistent with Known Safety Profile for Backbone Chemotherapy Regimens

## 301 Safety Observations Consistent with Known Safety Profile for Uproleselan

- No known adverse DDI
- No CYP inhibition/induction
- No dose limiting toxicities
- No hERG signal (of QT prolongation)
- No Differentiation Syndrome

## Treatment-Emergent Adverse Events

Adverse Events	Uproleselan n (%) [m]	Placebo n (%) [m]	Total n (%) [m]
Serious TEAE	69 ( 35.9) [97]	66 (34.2) [97]	135 (35.1) [194]
≥ Grade 3 TEAE	165 ( 85.9) [775]	169 (87.6) [744]	334 (86.8) [1519]
TEAE → Discontinuation	3 (1.6) [3]	2 (1.0) [2]	5 (1.3) [5]
Deaths	13 (6.8) [13]	13 (6.7) [14]	26 (6.8) [27]

# Clinically Meaningful Benefit Observed with Uproleselan Across Multiple Pre-Specified Subgroups

## Randomization Strata

### Backbone Chemotherapy

MEC (N=194) vs  
FAI (N=194)

### Disease Status

Primary Refractory  
(N=128)  
Early Relapse (N=50)  
Late Relapse (N=210)

### Age

<60 years (N=218)  
≥60 years (N=170)

## Depth of Response and Transplant

MRD- Status  
(N=144)

### Transplantation Status

Yes (N=200)  
No (N=188)

## Safety and Tolerability

### AEs & Serious TEAEs

## Survival Outcomes

- mOS in **FAI patients** treated with Uproleselan was 30.2 months vs. 12.8 months with placebo and a hazard ratio of 0.73
- **Primary Refractory patients** treated with Uproleselan had mOS of 31.2 months vs 10.1 months with placebo and a hazard ratio of 0.58
- **Median DoR** was **Not Reached** for **Primary Refractory patients** treated with Uproleselan + Chemotherapy
- **Age of the patient** had no meaningful impact across both arms of the trial

- **Transplanted patients** on placebo had mOS greater than 2 years vs not yet reached on Uproleselan with a hazard ratio of 0.59

- **Adverse events were consistent** with known side effect profiles of chemotherapy used in the trial

# Path Forward

**Harout Semerjian**  
President and Chief Executive Officer



# Despite Recent Advances in AML, Treatment Options are Needed for Patients with Primary Refractory Acute Myeloid Leukemia

## PRIMARY REFRACTORY

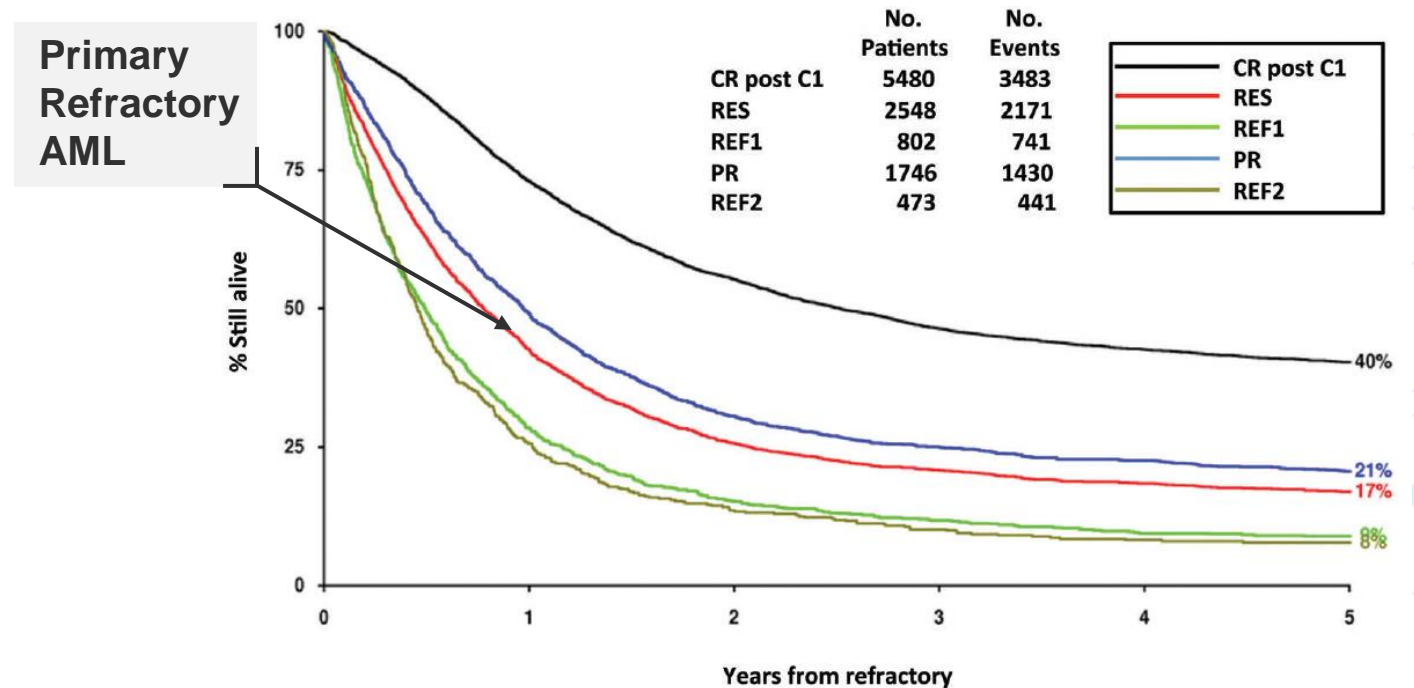
**Up to 40%**  
OF NEWLY DIAGNOSED AML

- NCCN and ELN guidelines denote Primary Refractory AML predicts poor prognosis
- Current treatment: salvage CT; HCT strongly recommended for eligible patients
- Only 15-20% achieve CR with salvage therapy<sup>2</sup>
- 5-yr OS: 5-10%<sup>2</sup>. In patients w/ AlloHCT, 5yr OS 20-30%<sup>1</sup>

<sup>1</sup> K.H. Begna et al. European LeukemiaNet-defined primary refractory acute myeloid leukemia: the value of allogeneic hematopoietic stem cell transplant and overall response. *Blood Cancer Journal* 2022

<sup>2</sup> F. Ravandi et al. Characteristics and outcome of patients with acute myeloid leukemia refractory to 1 cycle of high-dose cytarabine-based induction chemotherapy. *Blood*, 23 December 2010 Volume 116, Number 26

## UK MRC retrospective analysis of outcomes of newly diagnosed AML (N=8907) based on response to initial therapy



Survival from first being identified as refractory according to the definitions studied or entering complete remission (CR) after one course (C1) of induction chemotherapy a) CR post C1, RES (resistant disease; failure to achieve CR after C1), REF1 (minor or no response to C1), PR (partial response to C1), REF 2 (failure to achieve CR after 2 courses of IC);

P. Fergusson et al. An operational definition of primary refractory acute myeloid leukemia allowing early identification of patients who may benefit from allogeneic stem cell Transplantation *Haematologica* 2016 Volume 101(11):1351-1358

# Near-Term Focus

## Pivotal Phase 3 Trial of Uproleselan

- **Phase 3 trial** in R/R AML (n=388), results announced in Q2 2024
- **Significant unmet need and clinically meaningful data** including mOS of 31.18 months vs 10.09 months and a hazard ratio of 0.58 in primary refractory AML
- Exploring a **potential regulatory pathway** for uproleselan in certain AML patients, such as the primary refractory population

## Multiple Ongoing Uproleselan Clinical Trials

- **Fully enrolled Phase 2 trial** in front-line AML (n=267) ongoing, **NCI-sponsored**
- **Ongoing IITs** in other AML populations. Preliminary data presented at ASH 2022/2023

## Targeted Operational Execution

- **Extended cash** into Q1 2025
- Seeking partnership on the SCD program

Thank you. Questions?

# Additional Trial Data

# Uproleselan Survival Results Vary by Stratification Factors And Other Subgroups

Overall Survival Subgroups	Hazard Ratio (95% CI)
<b>Sex</b>	
• Female	0.93 (0.63 - 1.36)
• Male	0.95 (0.67 - 1.36)
<b>BL ELN Risk</b>	
• Favorable	0.72 (0.38 - 1.38)
• Intermediate	0.71 (0.39 - 1.29)
• Adverse	1.24 (0.85 - 1.82)

Overall Survival Subgroups	Hazard Ratio (95% CI)
<b>Disease Response</b>	
• CR	0.92 (0.54 - 1.59)
• CR/CRh	1.01 (0.64 - 1.60)
• CR/CRi	0.86 (0.52 - 1.41)
• CRc	0.94 (0.62 - 1.45)
• CRc/MLFS/PR	0.80 (0.55 - 1.17)
• No response	1.01 (0.70 - 1.46)
<b>CRc and MRD</b>	
• Negative	0.63 (0.34 - 1.16)
• Positive	1.66 (0.67 - 4.11)



# Secondary Endpoints and CRc MRD- Trended Favorably for Uproleselan vs. Placebo

Additional-Endpoints		Uproleselan N = 194 n (%)	Placebo N = 194 n (%)	Treatment Difference	P-value
Subsequent AML Rx in Non-Responders (n=80 / n=78)		32 (40.0)	36 (46.2)	-6.2	0.3865
<b>MRD-</b>					
MRD- CR/CRi, EOI / IERC	(n=77 / n=80)	50 (64.9)	47 (58.8)		
MRD- CR/CRh/CRi, EOI / IERC	(n=97 / n=95)	64 (66.0)	56 (58.9)		
MRD- CR/CRh/CRi/MLFS/PR, EOI / IERC	(n=114 / n=116)	70 (61.4)	64 (55.2)		

# Primary Refractory Patients Treated with Uproleselan had Significantly Greater Duration of Remission versus Placebo

	Primary Refractory		
	Uproleselan N = 62	Placebo N = 66	Hazard Ratio
<b>CR/CRh/CRi</b>			
Achieved	26	29	
Events* (%)	8 (30.8)	21 (72.4)	
Median DoR	<b>Not Reached</b>	<b>12.7</b>	<b>0.28</b>
95% CI	33.8 – NE	6.1 – 16.0	<b>0.12 – 0.68</b>

\* Event defined as loss of achieved response

# Response Rates Trending in Favor of Uproleselan vs. Placebo in Primary Refractory Patients

Primary Refractory				
Endpoint	Uproleselan (N = 62)	Placebo (N = 66)	Treatment Difference 95% CI	P-value
<b>Incidence of Severe Oral Mucositis During Induction</b>				
n (%)	0	1 (1.5)	-1.5	
95% CI	0.0 – 5.8	0.0 – 8.2	-8.1 – 4.5	<b>1.000</b>

