

# Lymphoma: State of the Art

**Alexey Danilov, MD, PhD**

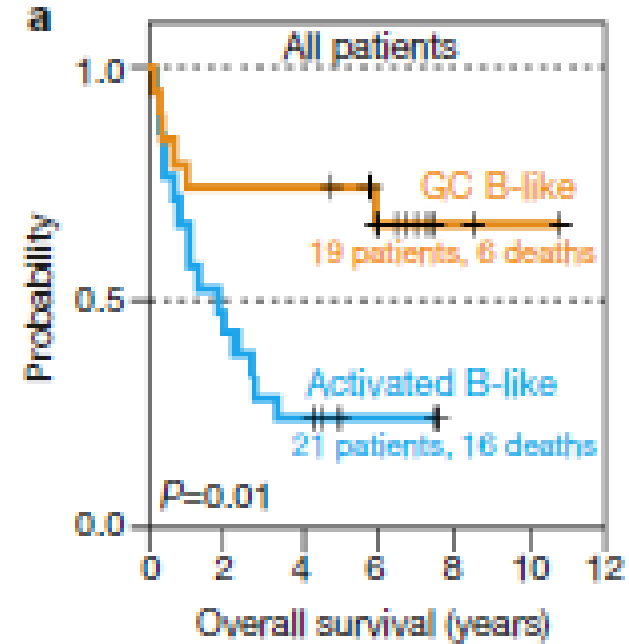
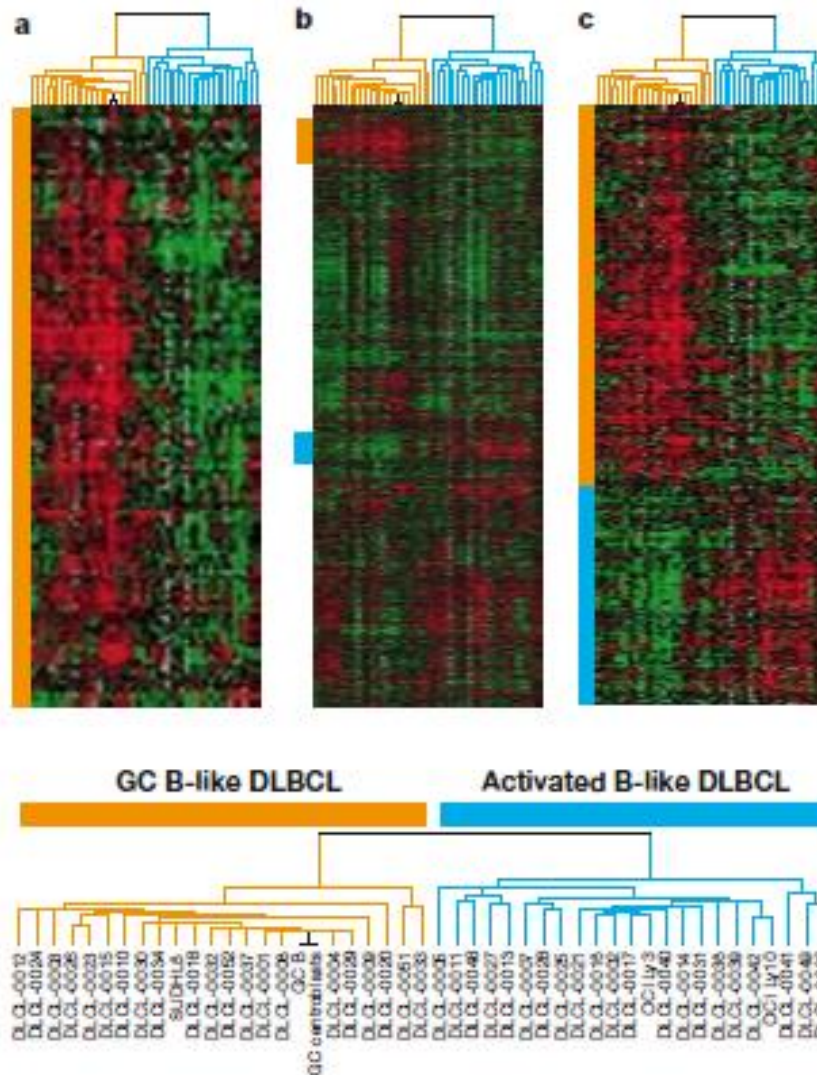
Marianne and Gerhard Pinkus Professor in Early Clinical Therapeutics  
Director, Early Phase Therapeutics Program for the Systems CTO  
Co-Director, Toni Stephenson Lymphoma Center  
Professor, Department of Hematology and Stem Cell Transplantation

**City of Hope Comprehensive Cancer Center**



# Aggressive NHL

# Cell of Origin (COO) predicts outcomes

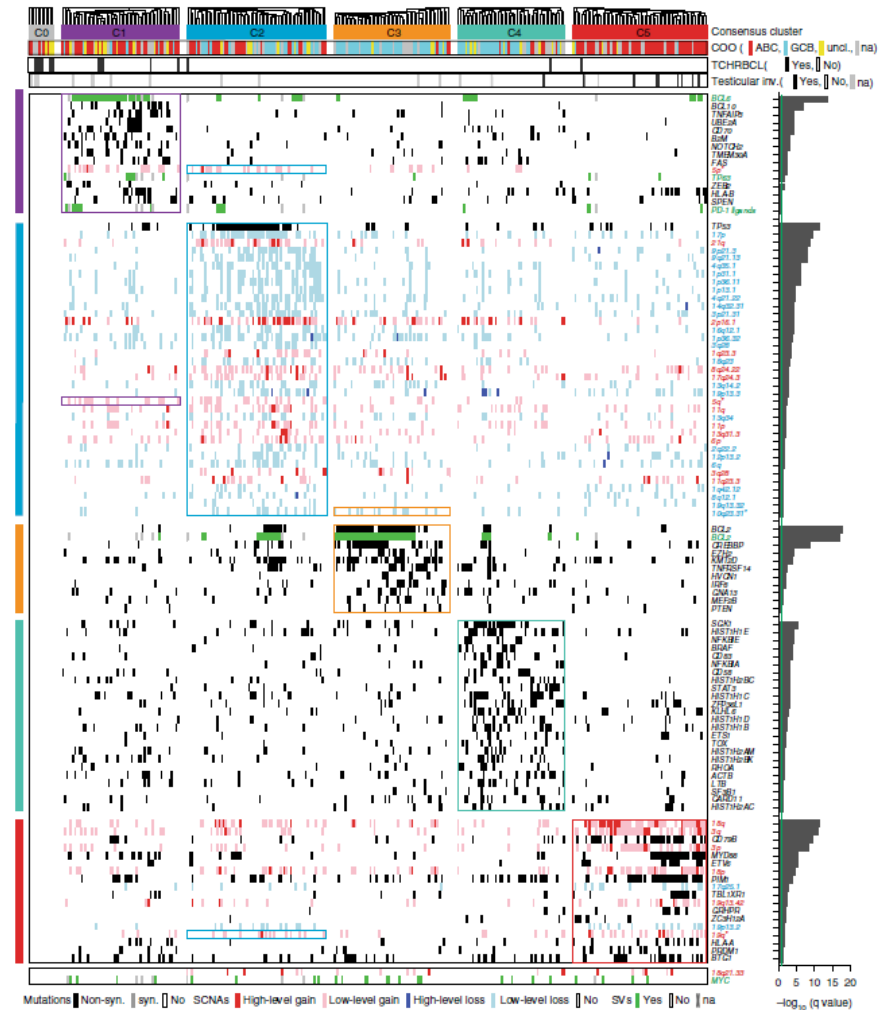
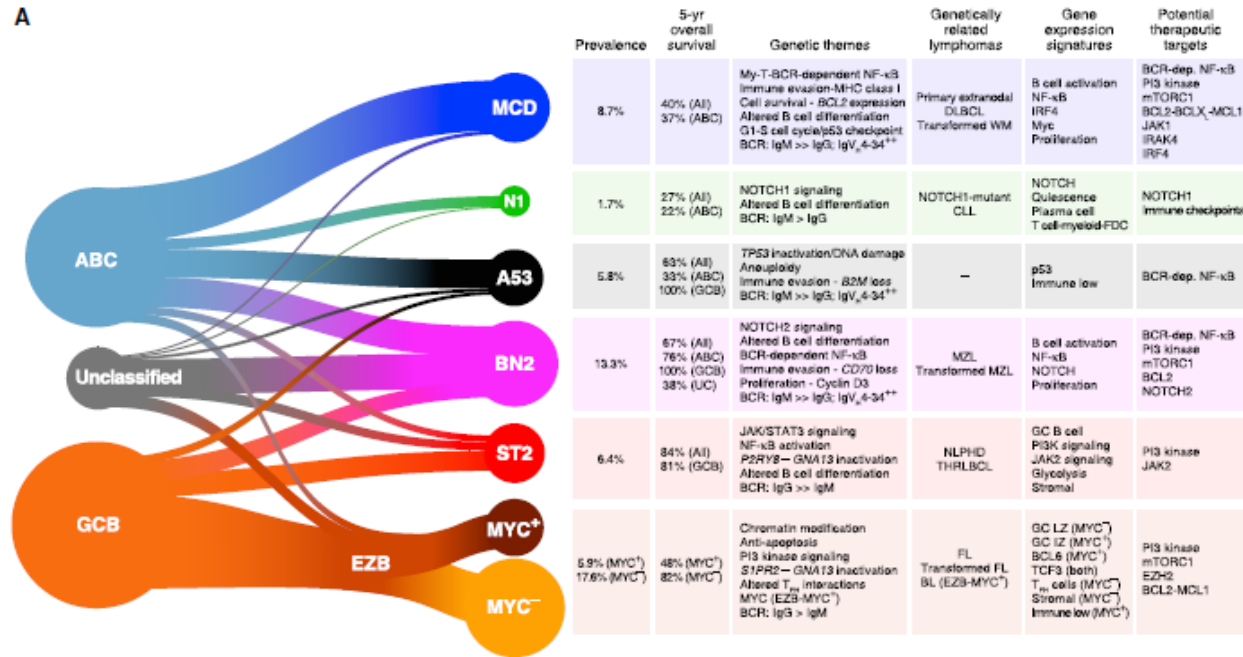


# DLBCL in 2000-2010

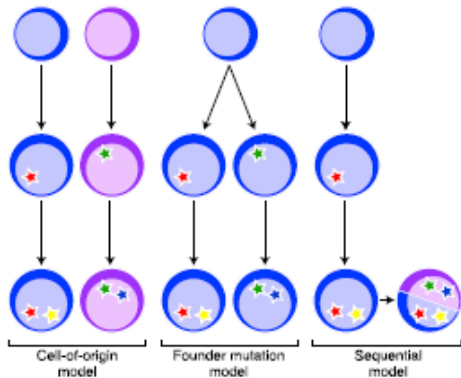
Patient Segment		Suggested Treatment Regimens for DLBCL Based on NCCN Guidelines®		
1L		R-CHOP	DA-R-EPOCH	R-Chemo for patients not eligible for R-CHOP
	ASCT eligible	R-Chemo	ASCT	
2L	ASCT ineligible	R-GemOx	Other chemotherapy regimens	Rituximab ± lenalidomide <sup>c</sup> (R <sup>2</sup> ) (non-GCB)
	≥2 prior systemic/CIT regimens		Other chemotherapy regimens	
3L+				

# Genetic classifications of DLBCL

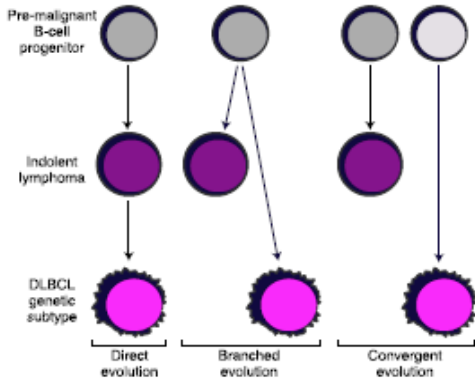
A



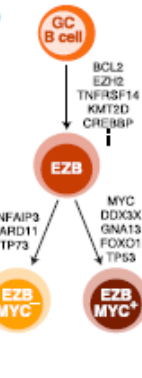
B



C



D



**Figure 8. Implications of the DLBCL Genetic Subtypes for Pathogenesis and Therapy**

(A) Summary of the relationship between DLBCL COO subgroups and the genetic subtypes (left). The genetic themes, phenotypic attributes, clinical correlates, and treatment implications of each subtype are shown at right. Prevalences were estimated using the NCI cohort, adjusting for a population-based distribution of COO subgroups (see STAR Methods). dep., dependent; FDC, follicular dendritic cell; LZ, light zone; IZ, intermediate zone.

(B) Models of selection for shared genetic features in DLBCL subtypes.

(C) Models accounting for genetic attributes shared by DLBCL genetic subtypes and indolent NHLs.

(D) Model of EZB-MYC<sup>+</sup> and EZB-MYC<sup>-</sup> evolution.

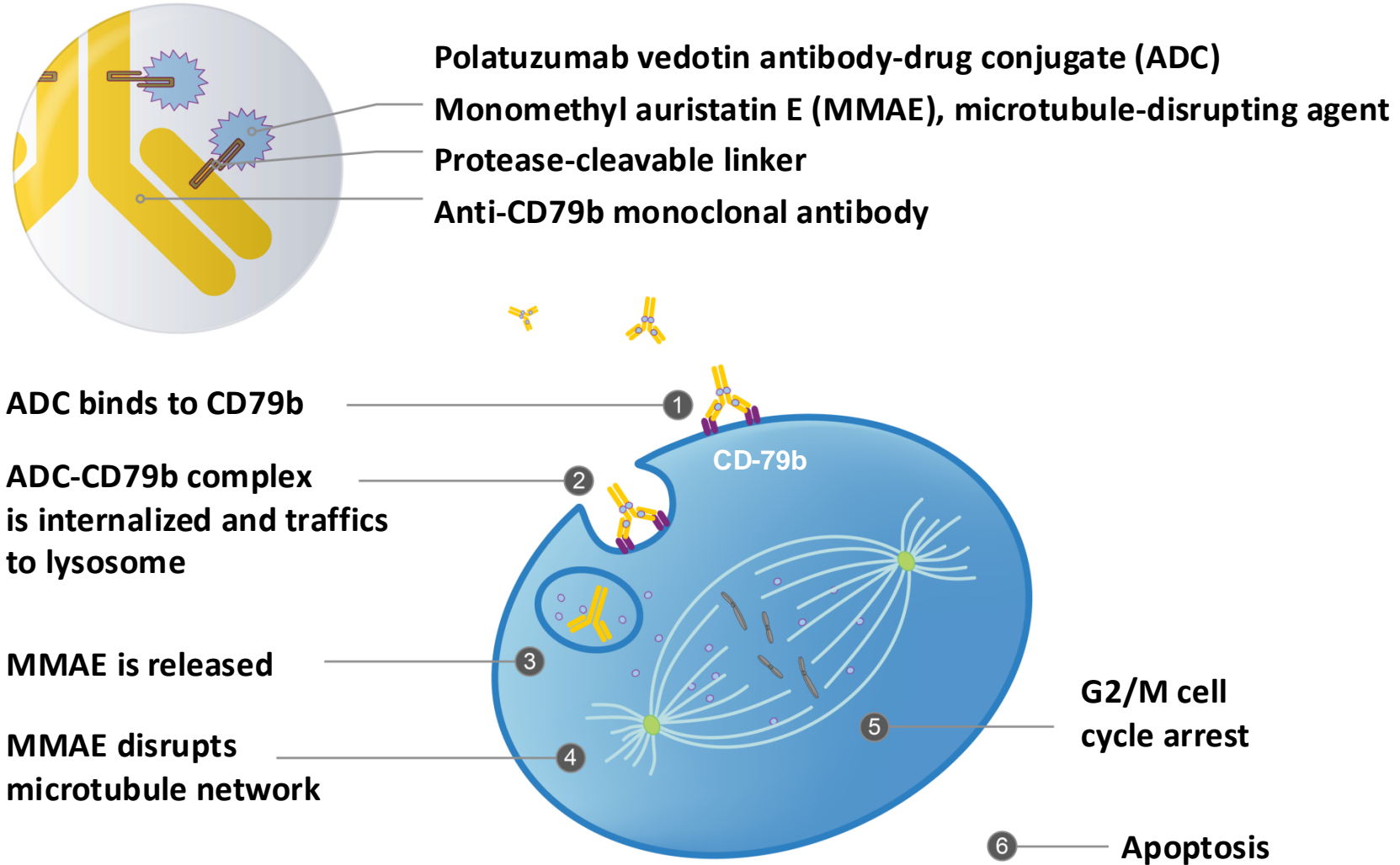
Wright et al, 2020

Chapuy et al, 2018

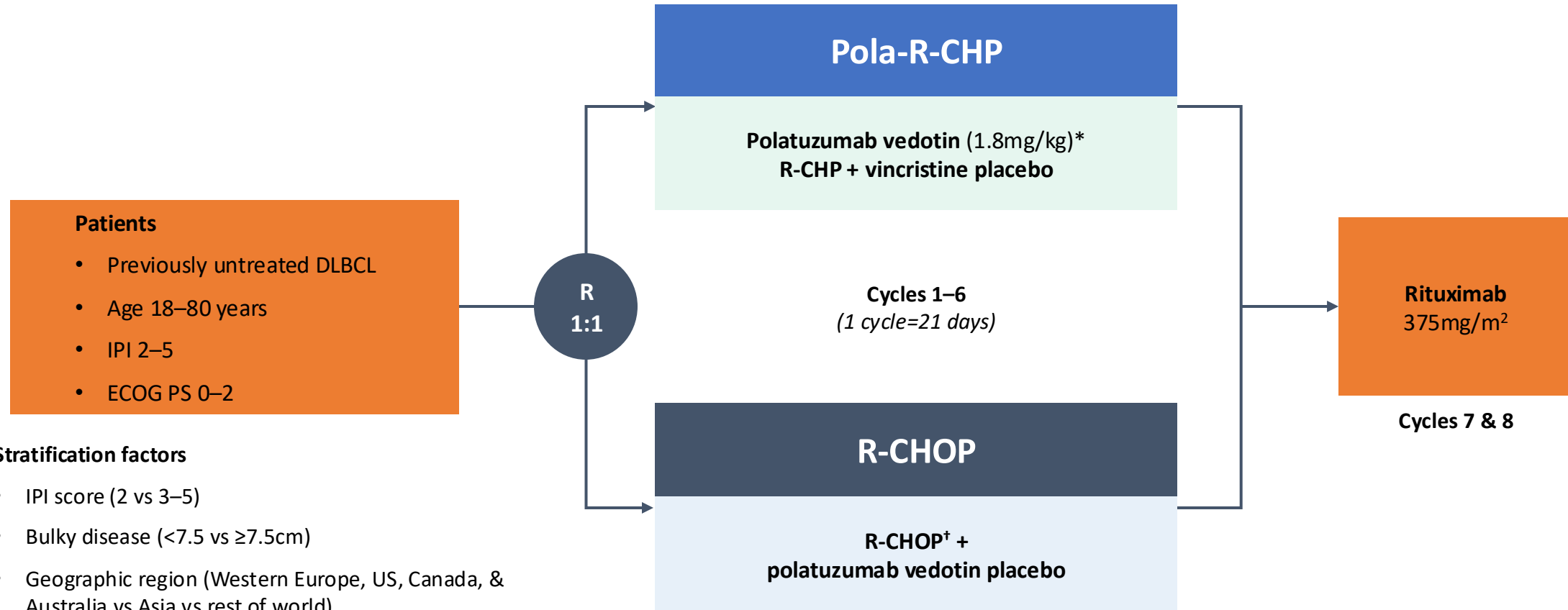
# Current treatment landscape in DLBCL

Patient Segment		Suggested Treatment Regimens for DLBCL Based on NCCN Guidelines®				
1L		R-CHOP/pola-R-CHP	DA-R-EPOCH	R-Chemo for patients not eligible for R-CHOP		
2L	ASCT eligible	R-Chemo	ASCT		Axicabtagene ciloleucel	Lisocabtagene maraleucel
	ASCT ineligible	R-GemOx	Polatuzumab vedotin ± BR	Tafasitamab + lenalidomide		
		Brentuximab vedotin (CD30+)	Other chemotherapy regimens		Rituximab ± lenalidomide <sup>c</sup> (R <sup>2</sup> ) (non-GCB)	
3L+	≥2 prior systemic/CIT regimens	Lisocabtagene maraleucel	Tisagenlecleucel	Axicabtagene ciloleucel		
		Loncastuximab tesirine	Polatuzumab vedotin ± BR	Tafasitamab + lenalidomide	Selinexor	
		Glofitamab	Epcoritamab			

# Polatuzumab Vedotin – an ADC (Antibody-Drug conjugate)



# POLARIX – a randomized double-blinded study

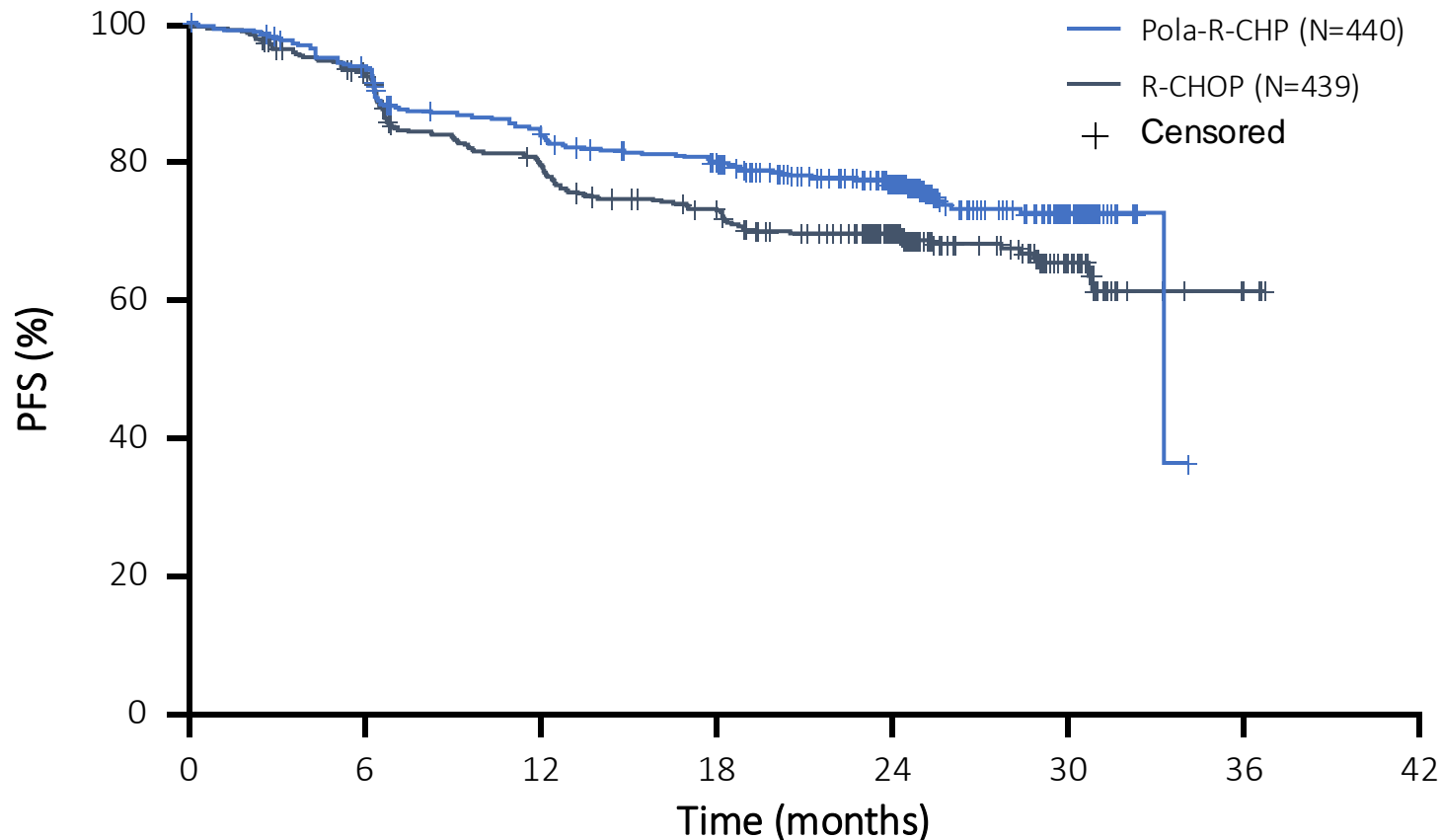


\*IV on Day 1; <sup>†</sup>R-CHOP: IV rituximab 375mg/m<sup>2</sup>, cyclophosphamide 750mg/m<sup>2</sup>, doxorubicin 50mg/m<sup>2</sup>, and vincristine 1.4mg/m<sup>2</sup> (max. 2mg) on Day 1, plus oral prednisone 100mg once daily on Days 1–5.

IPI, International prognostic index; ECOG PS, Eastern Cooperative Oncology Group performance status; R, randomized.



# POLARIX Primary endpoint: Progression-free survival



**HR 0.73** (P<0.02)

95% CI: 0.57, 0.95

- Pola-R-CHP demonstrated a 27% reduction in the relative risk of disease progression, relapse, or death versus R-CHOP
- 24-month PFS: 76.7% with Pola-R-CHP versus 70.2% with R-CHOP ( $\Delta=6.5\%$ )

**No. of patients at risk**

	0	6	12	18	24	30	36	42
Pola-R-CHP	440	404	353	327	246	78	NE	NE
R-CHOP	439	389	330	296	220	78	3	NE

ITT population. Data cut-off: June 28, 2021; median 28.2 months' follow-up. NE, not evaluable.

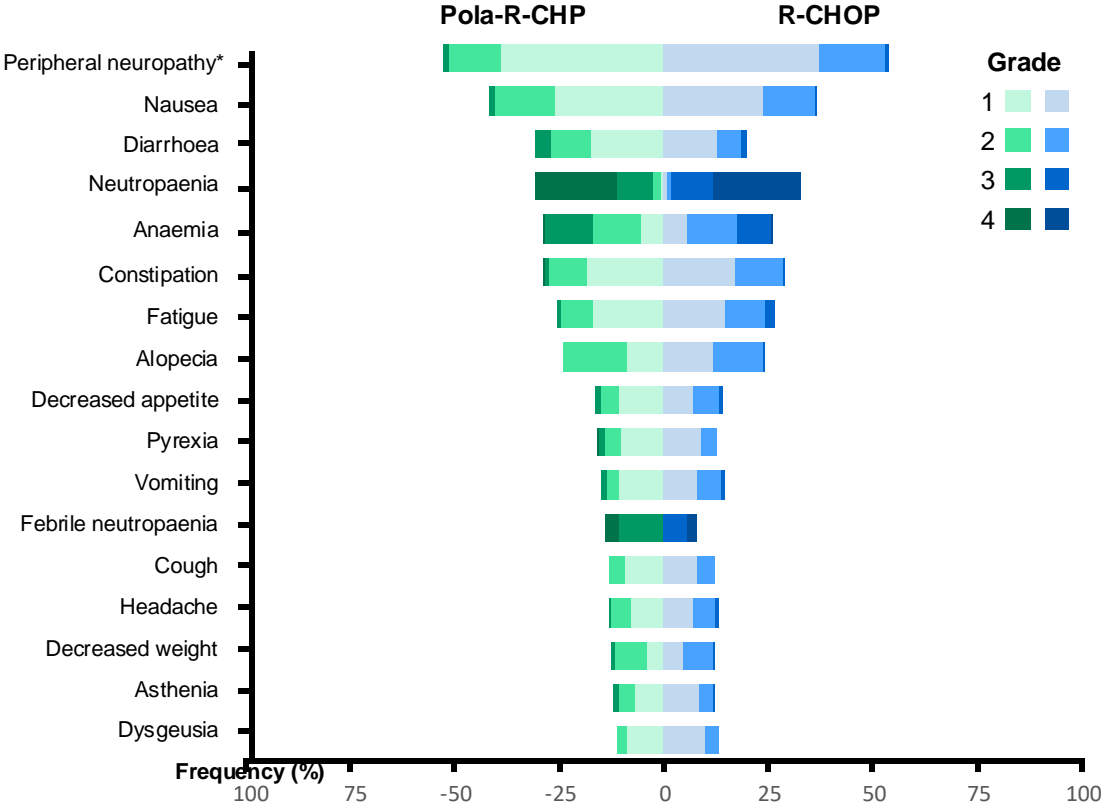
Tilly et al. *NEJM* 2021



# POLARIX: Safety summary

n (%)	Pola-R-CHP (N=435)	R-CHOP (N=438)
Any-grade adverse events	426 (97.9)	431 (98.4)
Grade 3–4	251 (57.7)	252 (57.5)
Grade 5	13 (3.0)	10 (2.3)
Serious adverse events	148 (34.0)	134 (30.6)
Adverse events leading to:		
Discontinuation of any study drug	27 (6.2)	29 (6.6)
Polatuzumab vedotin / vincristine	19 (4.4)	22 (5.0)
Dose reduction of any study drug	40 (9.2)	57 (13.0)

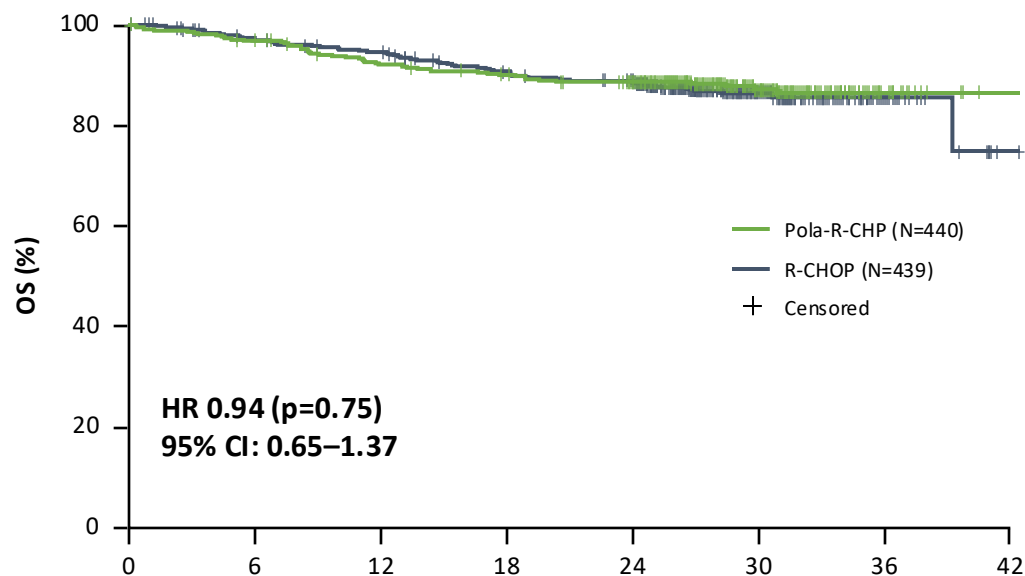
## Common adverse events



# POLARIX: Overall Survival

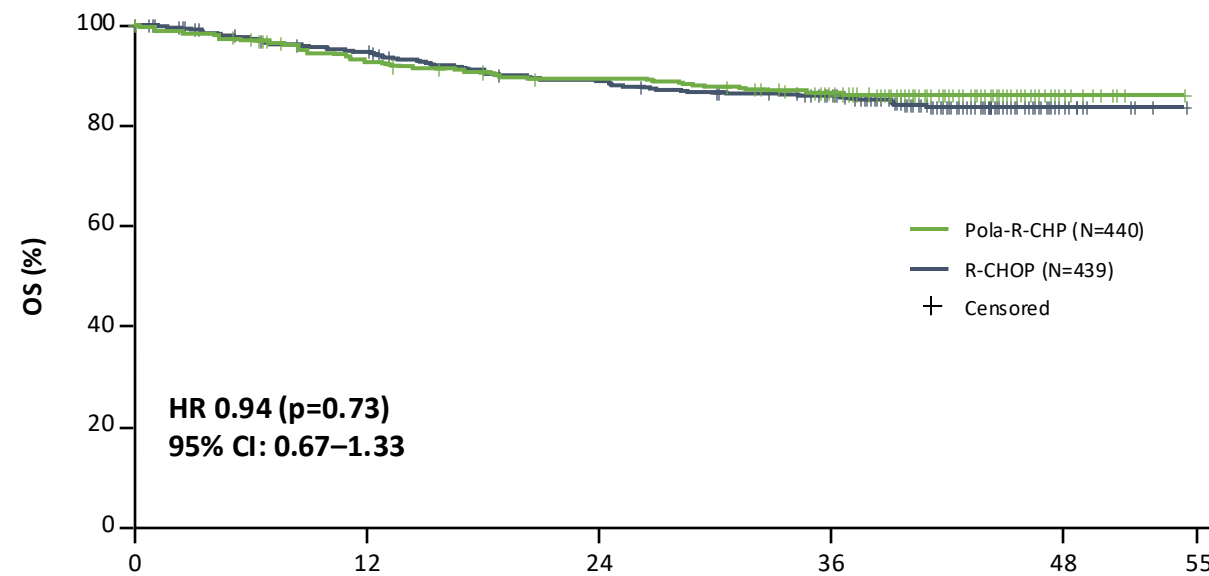
**Primary analysis (CCOD: June 28, 2021)<sup>1</sup>**

Median follow-up: 28.2 months



**Updated results (CCOD: June 15, 2022)**

Median follow-up: 39.7 months



No. of patients at risk

	0	6	12	18	24	30	36	42
Pola-R-CHP	440	423	397	384	362	140	15	1
R-CHOP	439	414	401	376	355	132	20	1

No. of patients at risk

	0	12	24	36	48	55
Pola-R-CHP	440	423	398	387	379	371
R-CHOP	439	415	403	382	372	361

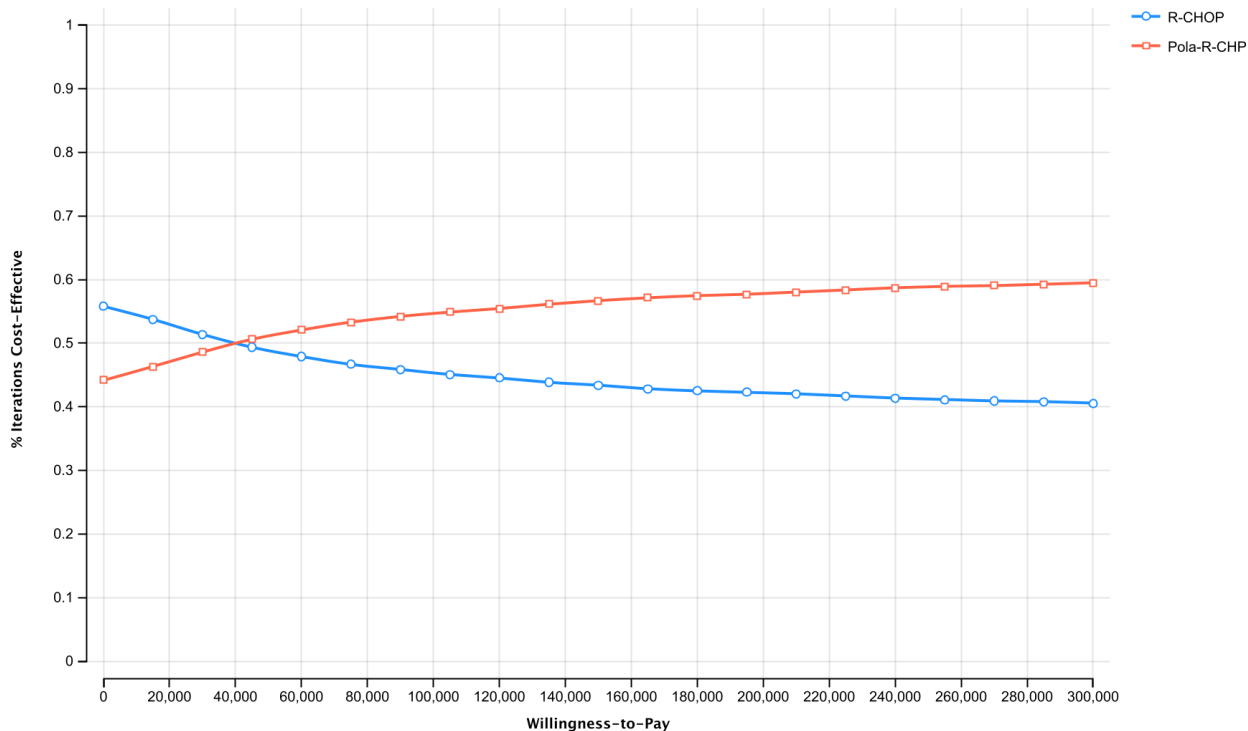
**No new safety signals have been identified with longer follow-up compared with the primary analysis**

Analysis based on the ITT population. Analysis of OS was time-driven, and was a prespecified, statistically tested analysis.

# Cost-effectiveness of Pola-R-CHP



Cost-Effectiveness Acceptability Curve



Assuming a 5-year PFS of 69.6% with pola-R-CHP and 62.7% with RCHOP, pola-R-CHP was cost-effective at a willingness to pay of \$150,000

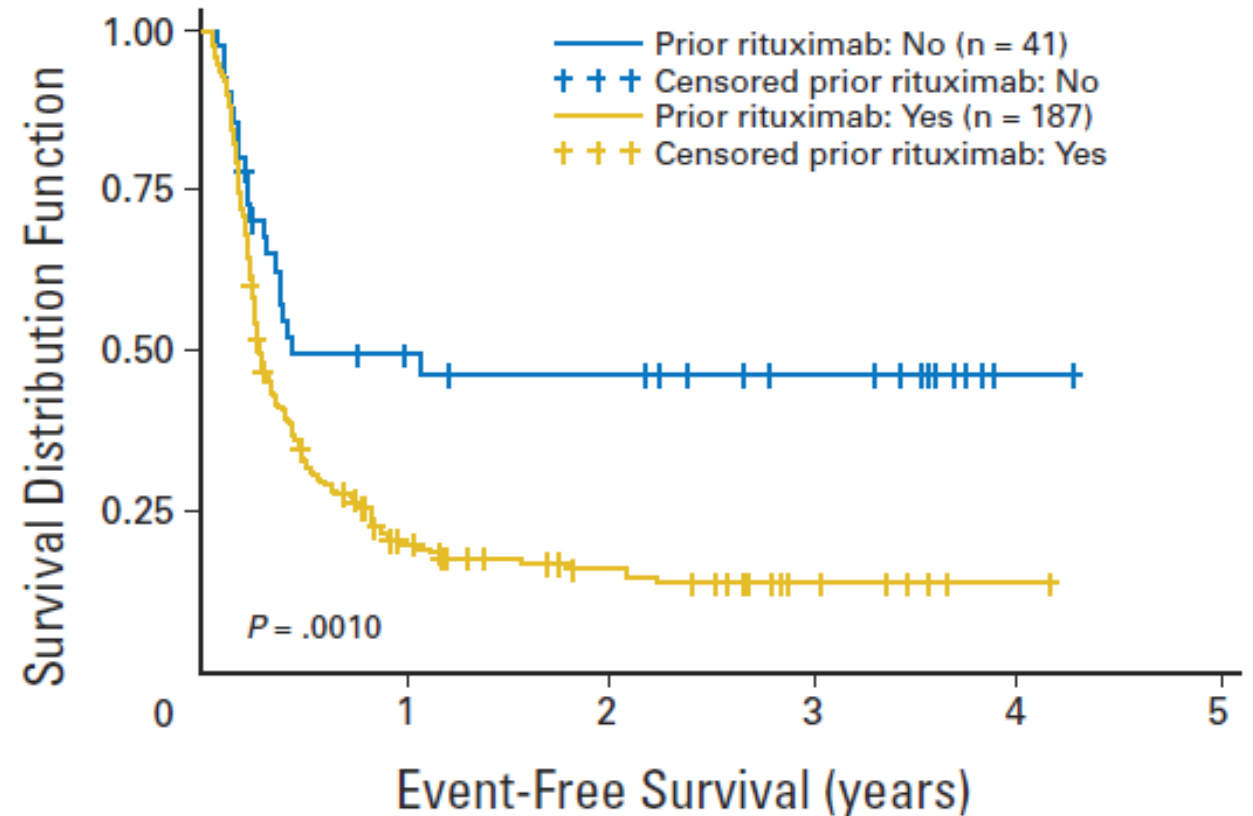
Pola-R-CHP was no longer cost effective if its 5-year PFS was  $\leq 66.1\%$

# Early relapse after R-CHOP -> Poor outcomes

1<sup>o</sup> refractory/early relapse after prior rituximab

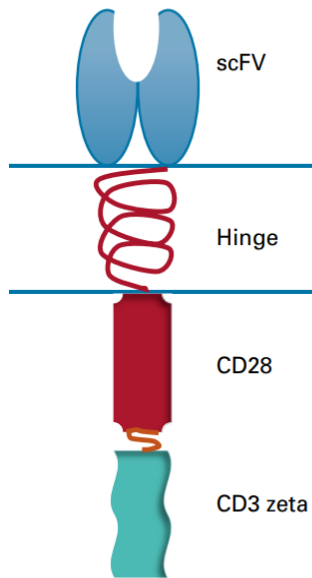
- 2L salvage intent-to-transplant outcomes:
  - ORR 46%
  - 3y EFS 20%
  - 3y OS 39%

## CORAL



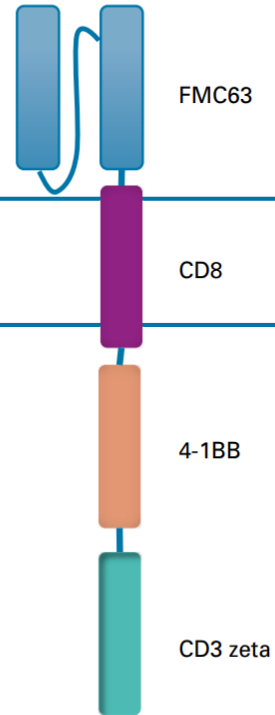
# CAR T cell Vectors

**Axicabtagene ciloleucel**



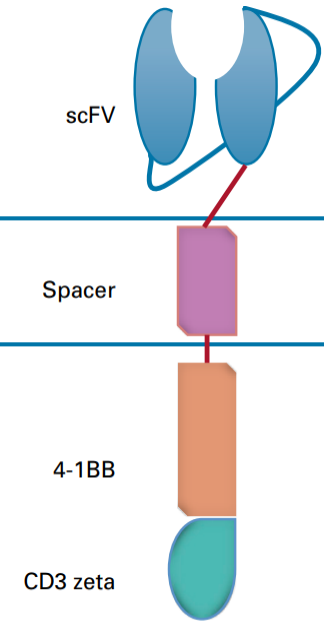
NCI  
ZUMA-1&5 : KTE-C19  
ZUMA-2 : KTE-X19

**Tisagenlecleucel**



U Penn  
ELIANA/JULIET  
CTL-019

**Lisocabtagene maraleucel**



FHCRC/SCH  
TRANSCEND  
JCAR017 / CD4:CD8 = 1.1

# CAR T cells in 2<sup>nd</sup> line

**Aggressive B-NHL**  
**Primary Refractory**  
**Relapse  $\leq$  12 mo of 1L**

Bridging  
chemo



**ZUMA-7**  
**Axi-cel**

Bridging  
chemo



**BELINDA**  
**Tisa-cel**

Bridging  
chemo



**TRANSFORM**  
**Liso-cel**

**R**  
**A**  
**N**  
**D**  
**O**  
**M**  
**I**  
**Z**  
**E**

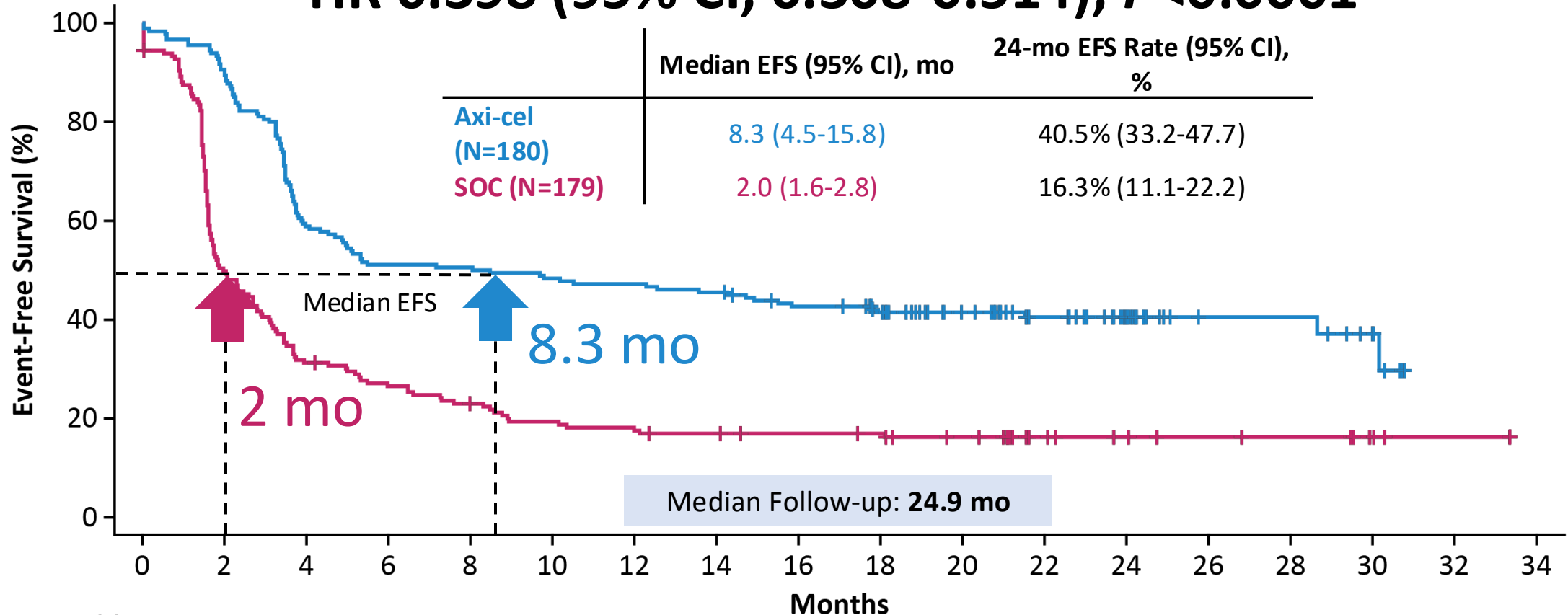
**1:1**

**CAR T-cells**

**Salvage/ASCT**

# Primary EFS Endpoint: Axi-Cel Is Superior to SOC

**HR 0.398 (95% CI, 0.308-0.514);  $P < 0.0001$**



No. at Risk

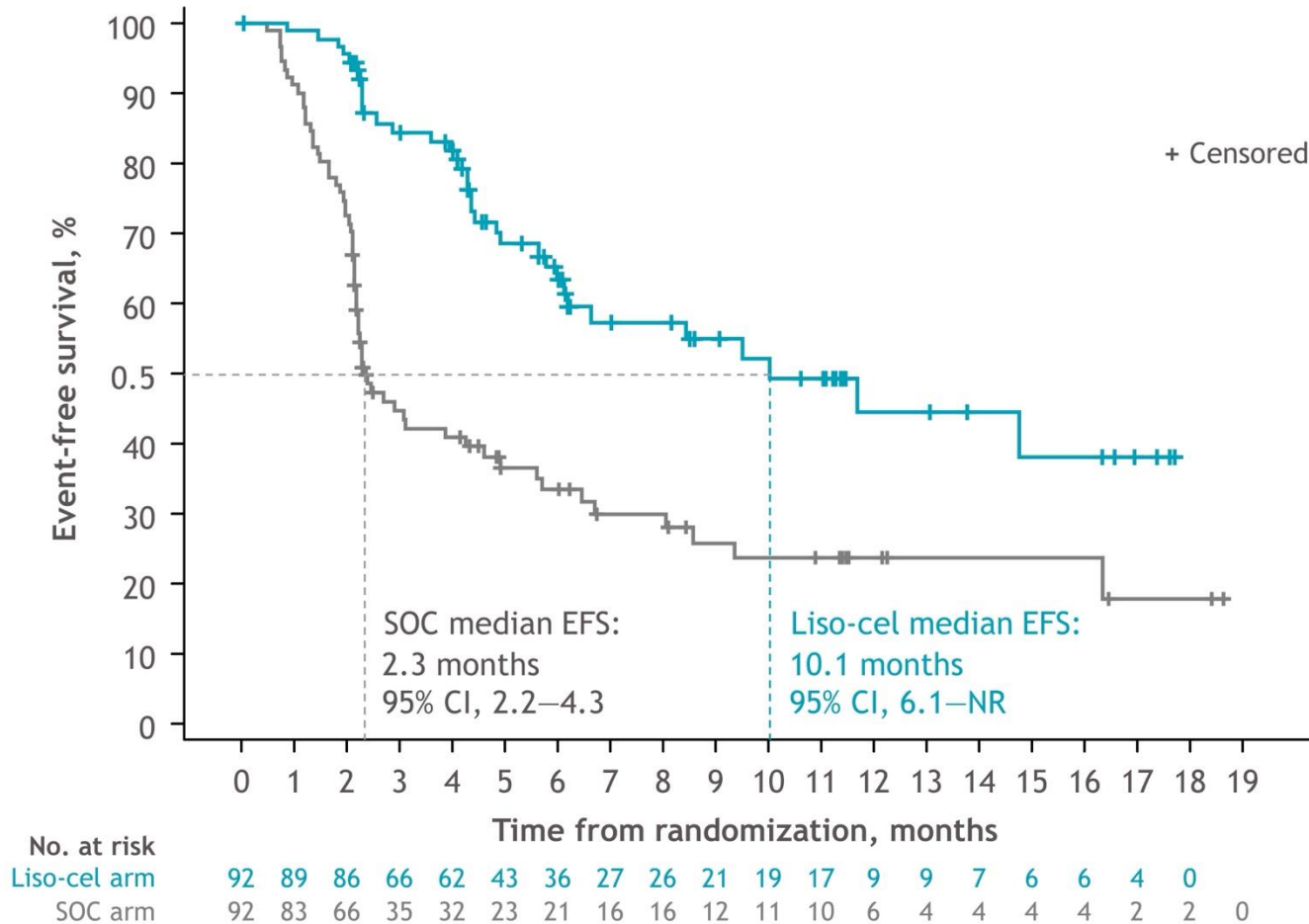
	0	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34
Axi-cel	180	163	106	92	91	87	85	82	74	67	52	40	26	12	12	6		
SOC	179	86	54	45	38	32	29	27	25	24	20	12	9	7	6	3		1





# TRANSFORM: Event-free survival per IRC (ITT set; primary endpoint)

Median follow-up in both arms: 6.2 months



	Liso-cel arm (n = 92)	SOC arm (n = 92)
Patients with events, n	35	63
Stratified HR (95% CI)	0.349 (0.229–0.530)	
	<i>P</i> < 0.0001	
6-month EFS rate, % (SE)	63.3 (5.77)	33.4 (5.30)
Two-sided 95% CI	52.0–74.7	23.0–43.8
12-month EFS rate, % (SE)	44.5 (7.72)	23.7 (5.28)
Two-sided 95% CI	29.4–59.6	13.4–34.1

One-sided *P* value significance threshold to reject the null hypothesis was < 0.012

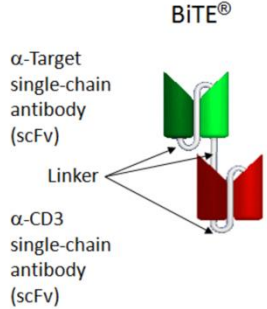

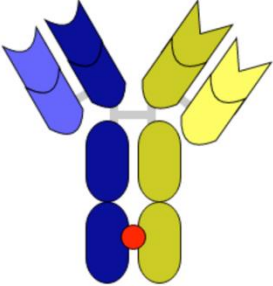
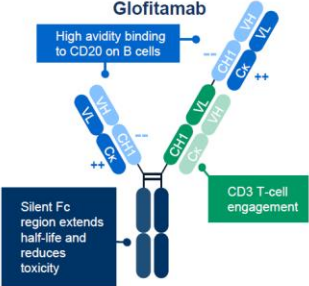
EFS is defined as the time from randomization to death due to any cause, progressive disease, failure to achieve CR or PR by 9 weeks post-randomization or start of a new antineoplastic therapy due to efficacy concerns, whichever occurs first.

CI, confidence interval; HR, hazard ratio; NR, not reached; SE, standard error.

# CAR T cells in 2<sup>nd</sup> line: Safety

Safety	ZUMA-7 <sup>1</sup> (N=338) R/R LBCL	BELINDA <sup>2</sup> (N=322) R/R aNHL	TRANSFORM <sup>3</sup> (N=183) R/R LBCL
Treatment arm	Axi-cel (n=170)	Tisa-cel (n=162)	Liso-cel (n=92)
Treatment-related deaths, n	1	10	1
CRS			
Any grade, n (%)	157 (92)	95 (59)	45 (49)
Grade ≥3, n (%)	11 (6)	8 (5)	1 (1)
Median time to onset, days	3	Not reported	5
Median time to resolution, days	7	Not reported	4
Neurologic events			
Any grade, n (%)	102 (60)	16 (10)	11 (12)
Grade ≥3, n (%)	36 (21)	3 (2)	4 (4)
Median time to onset, days	7	Not reported	11
Median time to resolution, days	9	Not reported	6

# Bi-Specific antibodies in Non-Hodgkin lymphoma

The Original: Proof of Concept	Received regulatory approval		
<p><b>Blinatumomab<sup>1</sup></b></p>	<p><b>Epcoritamab<sup>2</sup></b></p>	<p><b>Mosunetuzumab<sup>3</sup></b></p>	<p><b>Glofitamab<sup>4</sup></b></p>
 <p>BiTE<sup>®</sup></p> <p>α-Target single-chain antibody (scFv)</p> <p>Linker</p> <p>α-CD3 single-chain antibody (scFv)</p>	 <p>CD20</p> <p>CD3</p>		 <p>Glofitamab</p> <p>High avidity binding to CD20 on B cells</p> <p>Silent Fc region extends half-life and reduces toxicity</p> <p>CD3 T-cell engagement</p>
<p>CD3 (scFV) x CD19 (scFV)</p>	<p>DuoBody- CD3 x CD20 BsAb</p>	<p>CD3 x CD20 Knobs-in-hole Fc BsAb</p>	<p>CD3 (Fab) x CD20 (Fab x2) Fc BsAb</p>

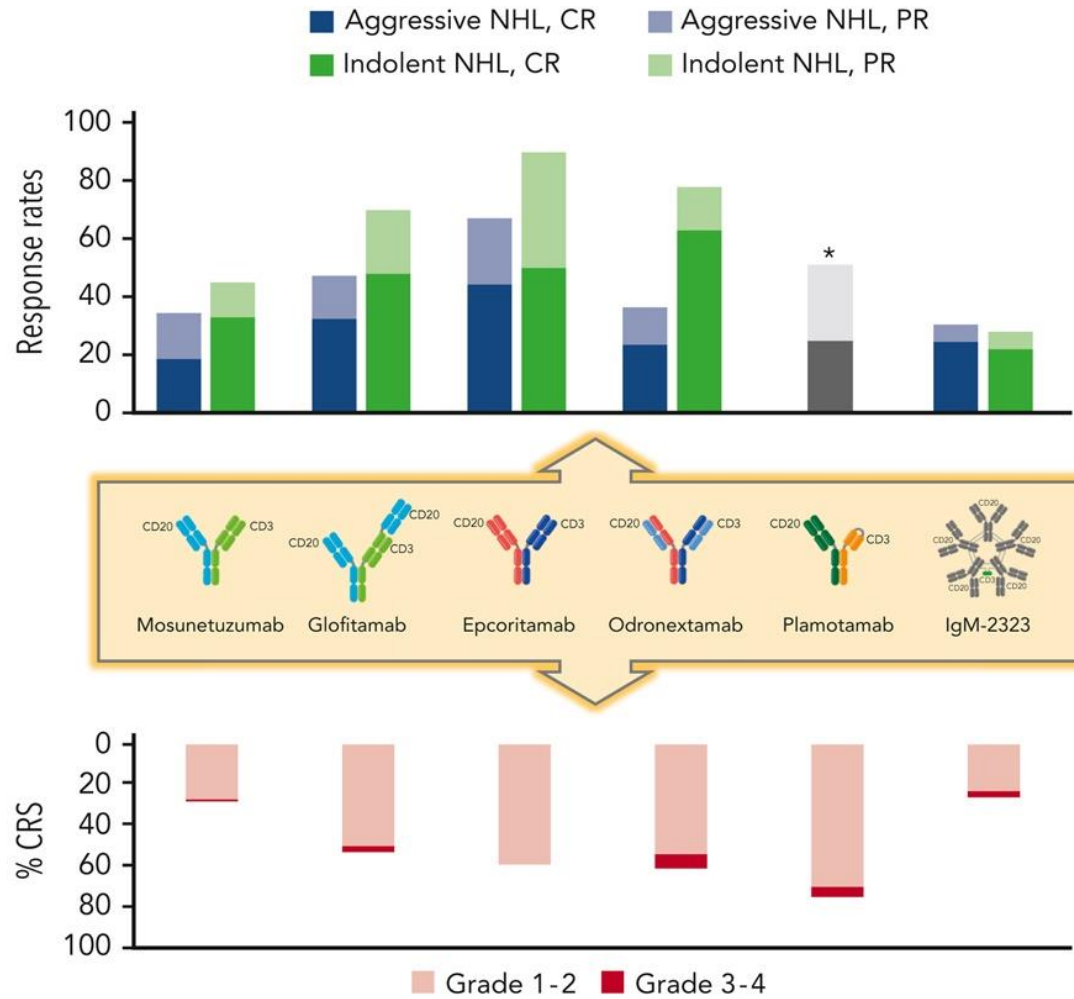
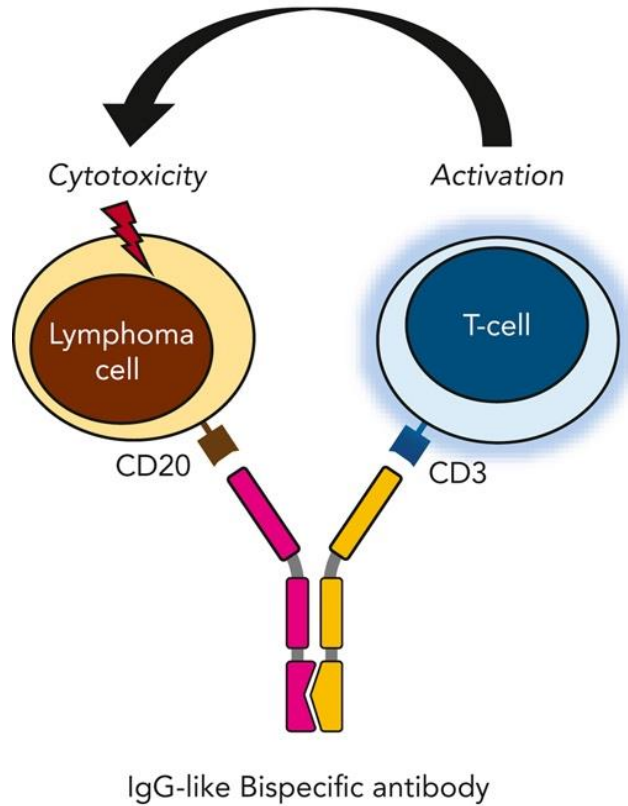
Properties of the BsAbs vary by construct

Distinguishing features of BsAbs include:

- **Off-the-shelf** – rapid access, relative ease of delivery
- **Adaptable** – lack of persistence and ability to modulate dosing may improve tolerability

1. Queudeville M, et al. *Onco Targets Ther.* 2017;10:3567-3578. 2. Clausen MR, et al. *J Clin Oncol.* 2021;39(suppl 15):7518. 3. Budde LE, et al. *Blood.* 2018;132(suppl 1):399. 4. Hutchings M, et al. *Blood.* 2020;136(suppl 1):45-46.

# Bispecific Antibodies in B-cell NHL



\*Data for aggressive NHL and indolent NHL reported in aggregate.

CR, complete response; CRS, cytokine release syndrome; HLH, hemophagocytic lymphohistiocytosis; ICANS, immune effector cell-associated neurotoxicity syndrome; NHL, non-Hodgkin lymphoma; PR, partial response; TLS, tumor lysis syndrome

1. Falchi L, Vardhana SA, Salles GA. *Blood*. 2023;141:467-480.

# Glofitamab: a 2:1 CD20xCD3 bispecific antibody

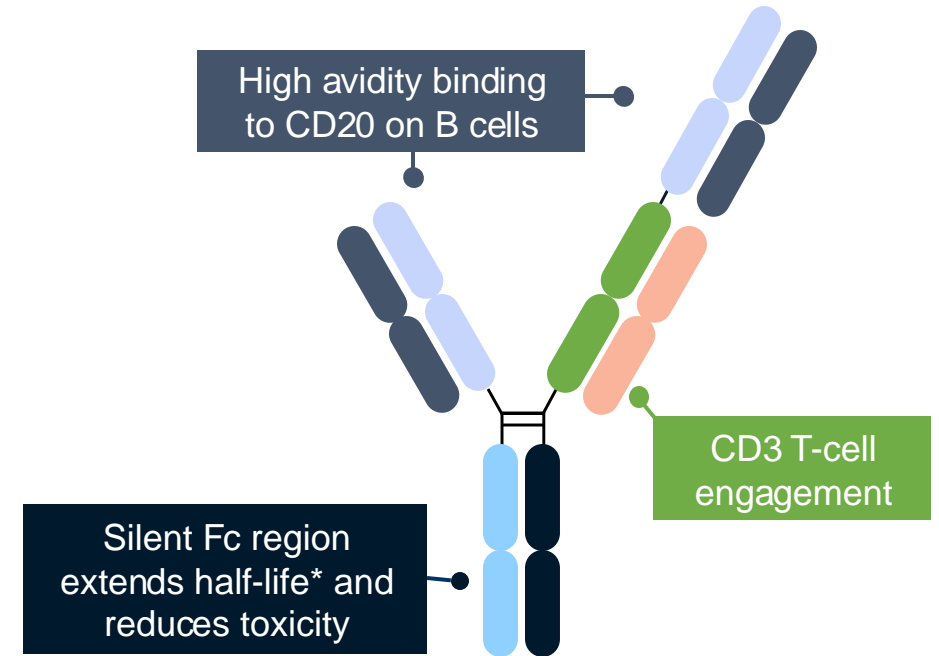
- **Glofitamab**

- Off-the-shelf treatment delivered in a fixed course of 12 three-weekly cycles<sup>1,2</sup>

- **Phase II experience (NCT03075696)<sup>2</sup>**

- Glofitamab has induced high CR rates and demonstrated manageable toxicity in patients with R/R LBCL<sup>3</sup>

**Glofitamab: CD20xCD3 bispecific antibody with 2:1 format for increased potency vs 1:1 format<sup>1</sup>**



**Aim: to report an extended follow-up and landmark analyses in patients with R/R LBCL who achieved a CR after receiving glofitamab monotherapy**

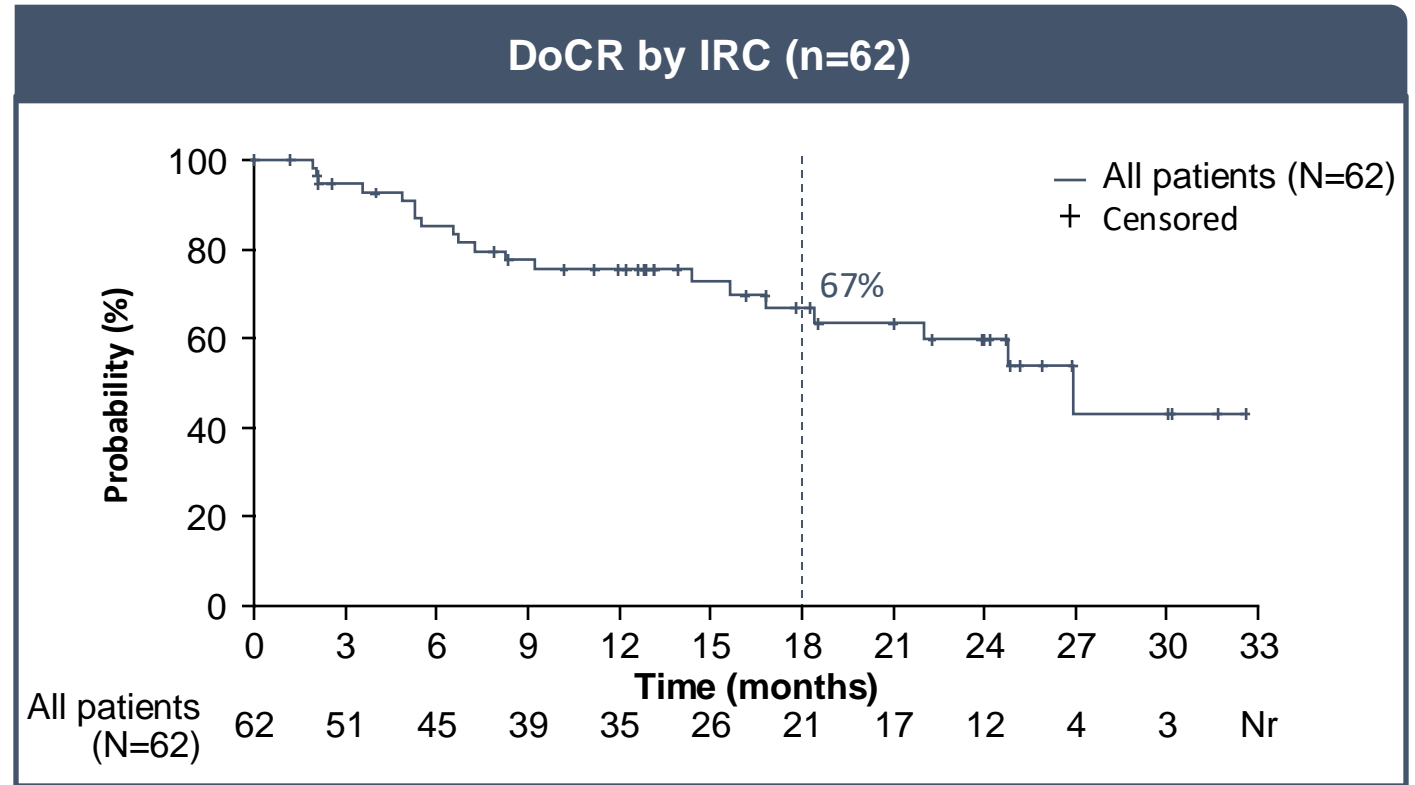
\*Compared with non-Fc bearing T-cell engaging bispecific antibodies.<sup>1,4</sup> CR, complete response; Fc, fragment crystallizable; LBCL, large B-cell lymphoma; R/R, relapsed/refractory.

1. Bacac, et al. Clin Cancer Res 2018; 2. NCT03075696. Available at: <https://clinicaltrials.gov>; 3. Dickinson MJ, et al. N Engl J Med 2022;387:2220–31; 4. Bacac M, et al. Oncoimmunol 2016;e1203498.

# Complete responses to glofitamab were durable

Glofitamab RP2D

	IRC (N=155)*
<b>CR rate†,</b> n (%) [95% CI]	62 (40) [32.2–48.2]
<b>ORR,</b> n (%) [95% CI]	80 (52) [43.5–59.7]
<b>Median CR follow-up,</b> months (range)	18.2 (0–33)
<b>18 months DoCR,</b> n (%) [95% CI]	67.0 (53.3–80.8)
<b>Ongoing CRs,</b> n/N (%)	42/62 (68)
<b>Median DoCR, months</b> (95% CI)	26.9 (18.4–NR)



- The median time on study was 21.2 months (range: 0–34)

**An estimated 67% of patients with a CR at any time remained in remission at 18 months**

\*Intent-to-treat population. †Best overall response. CI, confidence interval; NR, not reached.

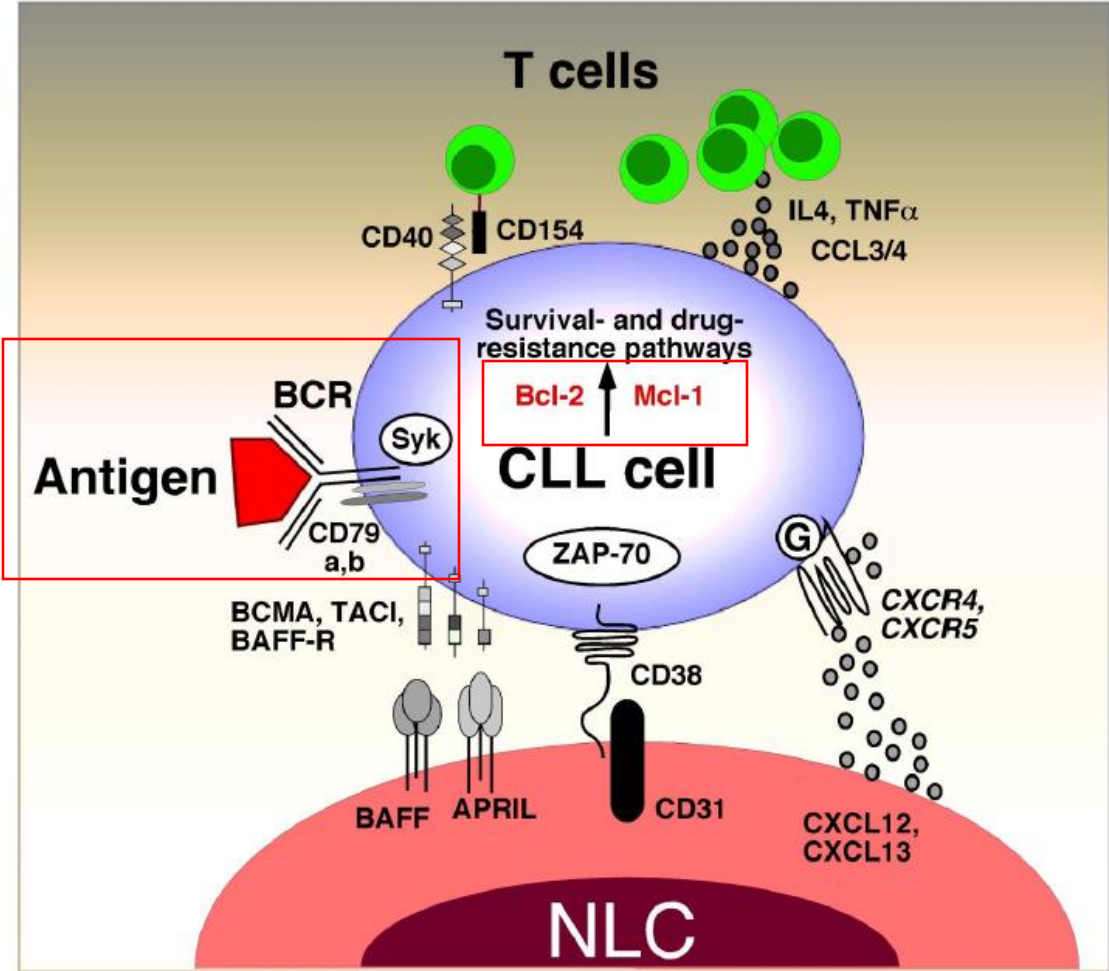
# DLBCL: Take-Home points

- Pola-R-CHP provides a novel first-line therapy with ↑ PFS
- Primary refractory/early relapsing patients:
  - CAR T-cell therapy is preferred
  - CAR T-cell therapy may be futile for uncontrollable disease
- ASCT suitable in pts with excellent response to salvage therapy and relapse > 12 months
- BsAb and novel therapies are available for patients who are not candidates or failed CAR T-cell therapy

# Indolent NHL



# CLL cell survival is driven by microenvironment signaling



After Burger J, 2013

# Frontline Phase II Randomized Trials in CLL

## BTKi

**RESONATE-2** (>65 or comorbidities)

**Ibrutinib** vs. **Chlorambucil**

**iLLUMINATE** (PCYC-1130) (>65 or comorbidities)

**Ibrutinib + O** vs. **Chlorambucil + O**

**ECOG E1912** [<70; non-del(17p)]

**Ibrutinib + R** vs. **FCR**

**Alliance** A041202 (>65)

**Ibrutinib** vs. **Ibrutinib + R** vs. **BR**

**ELEVATE-TN** (>65 or comorbidities)

**Acala** vs. **Acala + O** vs. **Chlorambucil + O**

**SEQUOIA** [ $\geq$ 65 OR comorbidities; non-del(17p)]

**Zanubrutinib** vs. **BR**

**FLAIR** [ $\leq$ 75; non-del(17p)]

**Ibrutinib + R** vs. **FCR**

## BCL2i

**CLL14** (CIRS >6; CrCl <70 mL/min)

**Venetoclax + O** vs. **Chlorambucil + O**

# ALPINE Study Design (NCT03734016)

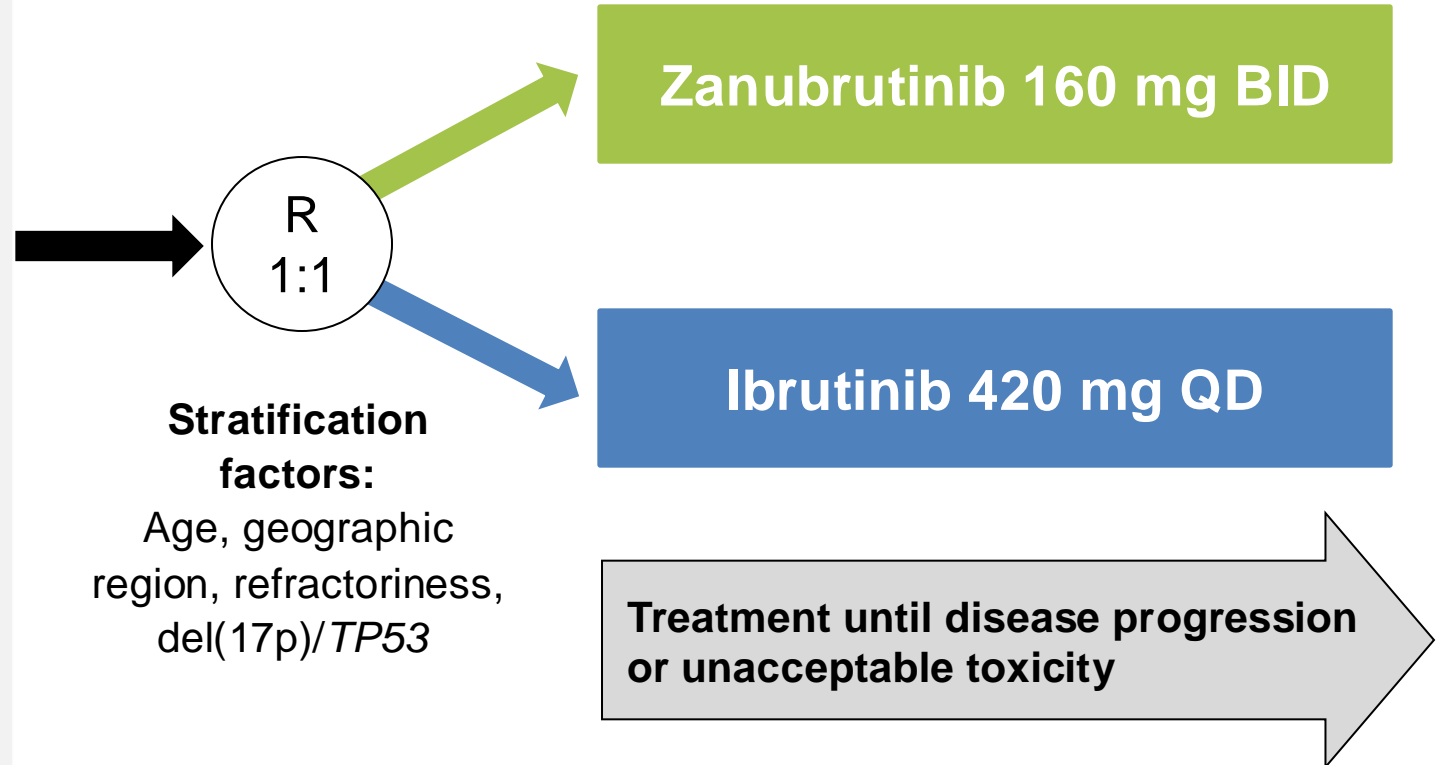
R/R CLL/SLL with  $\geq 1$  prior treatment  
(N=652)

## Key Inclusion Criteria

- R/R to  $\geq 1$  prior systemic therapy for CLL/SLL
- Measurable lymphadenopathy by CT or MRI
- Requires treatment per iwCLL

## Key Exclusion Criteria

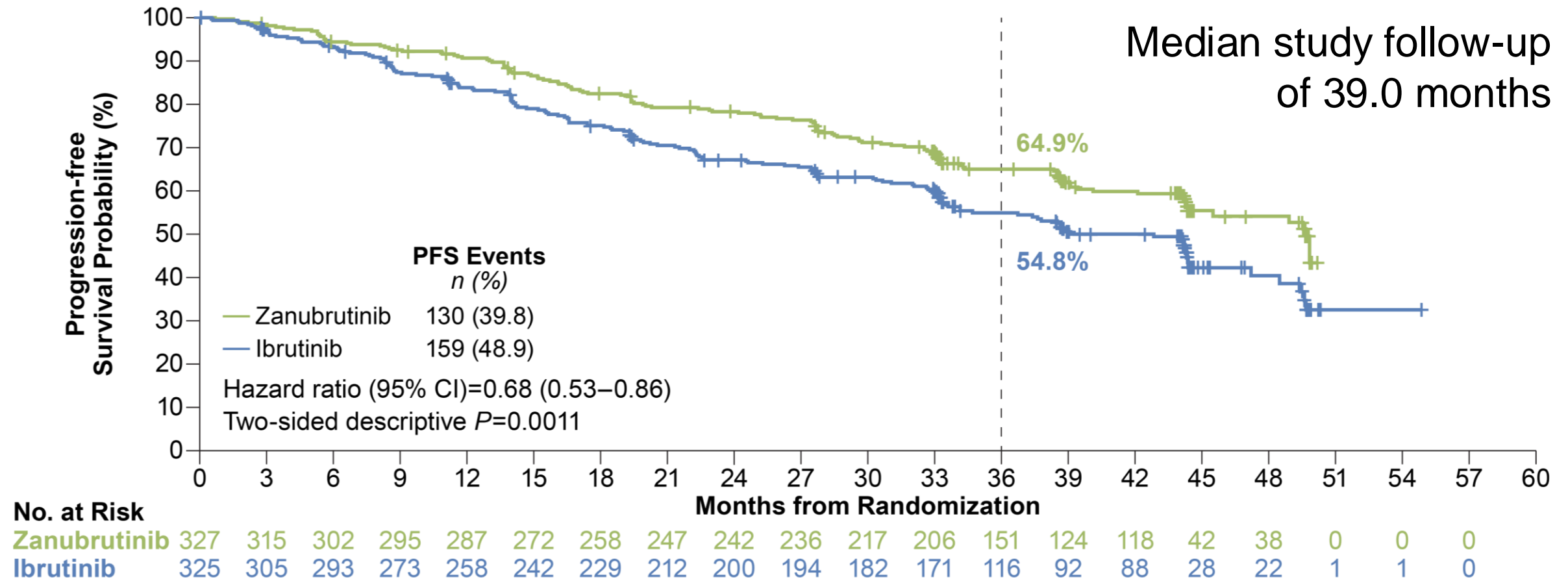
- Prior BTK inhibitor therapy
- Treatment with warfarin or other vitamin K antagonists



Brown JR, Eichhorst B, Hillmen P, et al. *N Engl J Med.* 2023;388:319-332.



# Zanubrutinib Sustains PFS Benefit Over Ibrutinib At Extended Follow-up

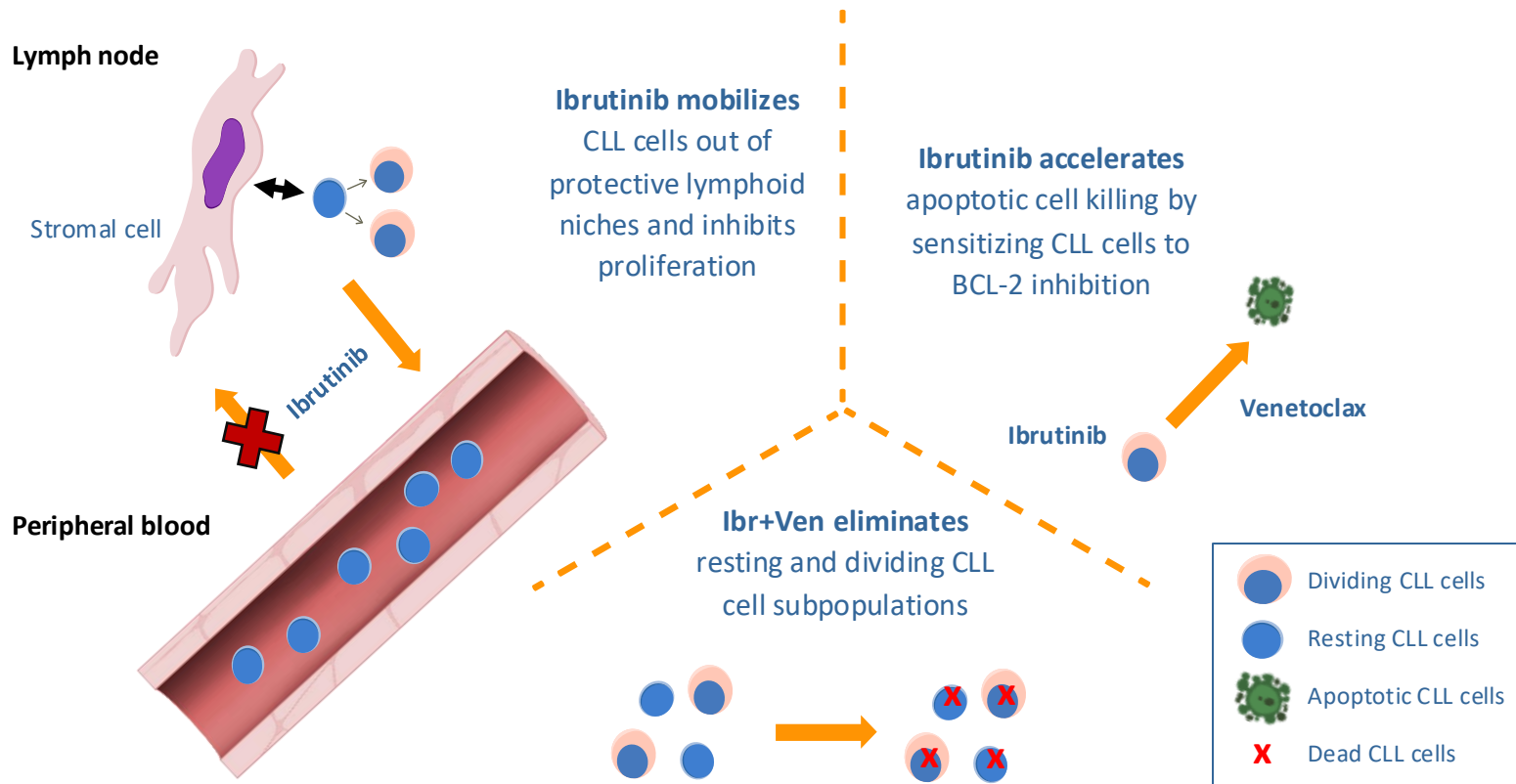


# Frontline Phase II Randomized Trials in CLL

BTKi	BCL2i	Novel-novel
<p><b>RESONATE-2</b> (&gt;65 or comorbidities)  <b>Ibrutinib</b> vs. <b>Chlorambucil</b></p> <p><b>iLLUMINATE</b> (PCYC-1130) (&gt;65 or comorbidities)  <b>Ibrutinib + O</b> vs. <b>Chlorambucil + O</b></p> <p><b>ECOG E1912</b> [&lt;70; non-del(17p)]  <b>Ibrutinib + R</b> vs. <b>FCR</b></p> <p><b>Alliance</b> A041202 (&gt;65)  <b>Ibrutinib</b> vs. <b>Ibrutinib + R</b> vs. <b>BR</b></p> <p><b>ELEVATE-TN</b> (&gt;65 or comorbidities)  <b>Acala</b> vs. <b>Acala + O</b> vs. <b>Chlorambucil + O</b></p> <p><b>SEQUOIA</b> [≥65 OR comorbidities; non-del(17p)]  <b>Zanubrutinib</b> vs. <b>BR</b></p> <p><b>FLAIR</b> [≤75; non-del(17p)]  <b>Ibrutinib + R</b> vs. <b>FCR</b></p>	<p><b>CLL14</b> (CIRS &gt;6; CrCl &lt;70 mL/min)  <b>Venetoclax + O</b> vs. <b>Chlorambucil + O</b></p>	<p><b>GLOW</b> (&gt;65 or comorbidities)  <b>Ibrutinib + Venetoclax</b> vs. <b>Chlorambucil + O</b></p> <p><b>CLL13</b>  <b>I+V+O</b> vs. <b>Ven+O</b> vs. <b>Ven+R</b>  vs. <b>FCR/BR</b></p> <p><b>MAJIC</b>  <b>A+V</b> vs. <b>V+O</b></p> <p><b>CLL17</b>  <b>I</b> vs. <b>Ven+O</b> vs. <b>I+V</b></p>



# Ibrutinib + Venetoclax: Distinct and Complementary Modes of Action That Work Synergistically<sup>1-9</sup>

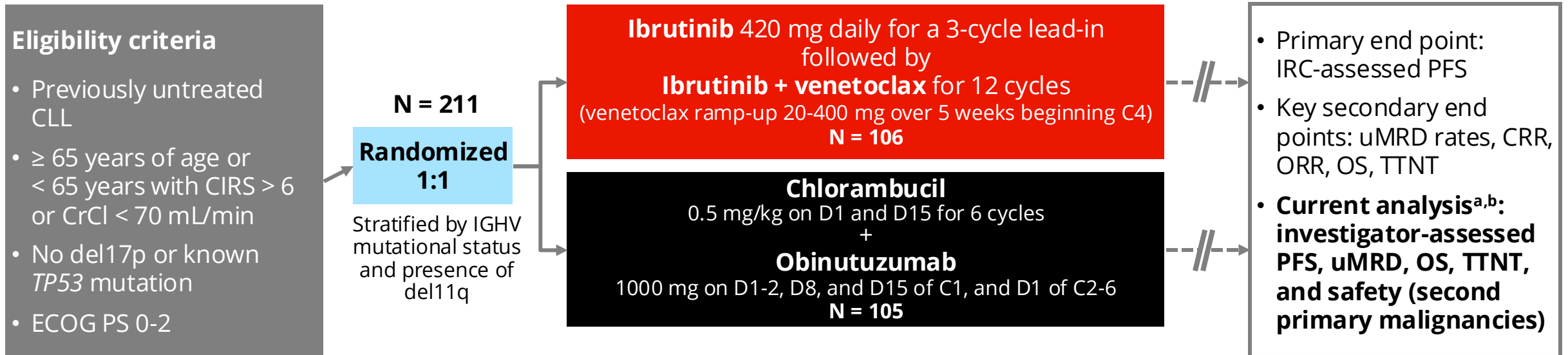


- MRD status is a predictor of PFS in CLL following CIT and FDT with venetoclax + an anti-CD20 antibody, but the relationship has not been explored for Ibr+Ven<sup>10,11</sup>
- We further investigated MRD outcomes and correlation with PFS in the phase 3 GLOW study

1. Lu P, et al. *Blood Cancer J.* 2021;11:39; 2. Deng J, et al. *Leukemia.* 2017;31:2075-2084; 3. Herman ES, et al. *Clin Cancer Res.* 2015;21:4642-4651; 4. Burger JA, et al. *Leukemia.* 2020;34:787-798; 5. Shanafelt T, et al. *N Engl J Med.* 2019;381:432-443; 6. Cervantes-Gomez F, et al. *Clin Cancer Res.* 2015;21:3705-3715; 7. Kater AP, et al. *Blood Adv.* 2021 Sep 23 [Epub ahead of print]; 8. Haselager MV, et al. *Blood.* 2020;136:2918-2926; 9. Slinger E, et al. *Leukemia.* 2017;31:2601-2607; 10. Wierda WG, et al. *Leukemia.* 2021 Jun 24 [Epub ahead of print]; 11. Kater AP, et al. *J Clin Oncol.* 2019;37:269-277.



# GLOW: Phase 3 Study (NCT03462719) Evaluating Fixed-Duration Ibr+Ven in Previously Untreated CLL



- **Here we present the updated clinical outcomes at a median follow-up of 57.3 months (range, 1.7-65.2)**
- Baseline characteristics (presented previously) were generally balanced between arms and reflective of an elderly and/or comorbid population<sup>1</sup>
- IGHV status at baseline:
  - Ibr+Ven arm: mIGHV 30.2%, uIGHV 63.2%
  - Clb+O arm: mIGHV 33.3%, uIGHV 54.3%

<sup>a</sup>All *p* values are nominal. <sup>b</sup>uMRD in PB by NGS via Clonoseq assay.

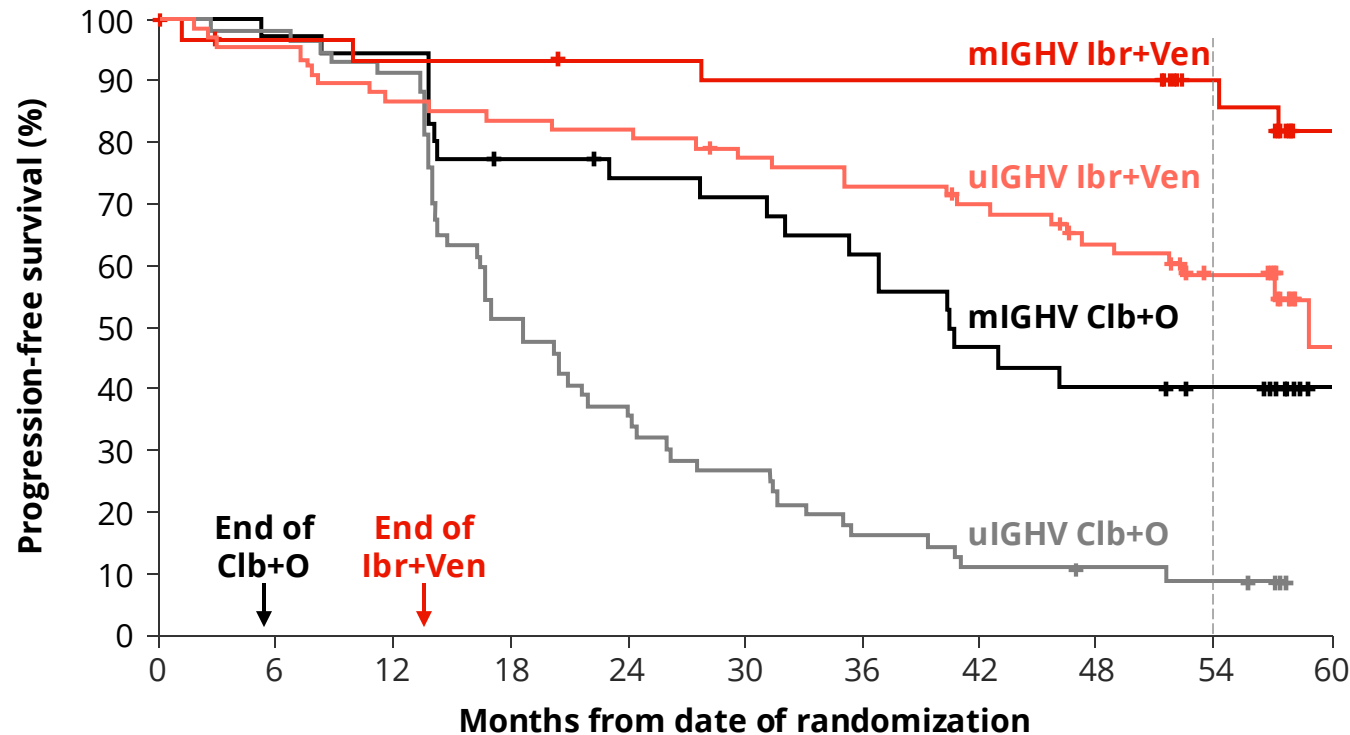
C, cycle (28 days); CIRS, Cumulative Illness Rating Scale score; CrCl, creatinine clearance; CRR, complete response rate; D, day; ECOG PS, Eastern Cooperative Oncology Group performance status; IRC, independent review committee; mIGHV, mutated IGHV; NGS, next-generation sequencing; ORR, overall response rate; PB, peripheral blood; uIGHV, unmutated IGHV.

1. Niemann CU, et al. *Lancet Oncol.* 2023;24:1423-1433.



# GLOW: At 57 Months of Follow-up, Ibr+Ven Improved PFS Versus Clb+O Regardless of IGHV Status

Progression-Free Survival (ITT) by IGHV Status



- Estimated 54-month PFS rates:
  - **Ibr+Ven:**
    - 90% for patients with mIGHV
    - 59% for patients with uIGHV
  - **Clb+O:**
    - 40% for patients with mIGHV
    - 8% for patients with uIGHV

Patients at risk	0	6	12	18	24	30	36	42	48	54	60
mIGHV Ibr+Ven	32	29	28	28	27	26	26	26	26	22	5
uIGHV Ibr+Ven	67	64	58	56	55	51	48	45	39	30	6
mIGHV Clb+O	35	34	33	26	24	23	20	15	13	9	2
uIGHV Clb+O	57	56	52	29	21	15	9	6	5	4	0

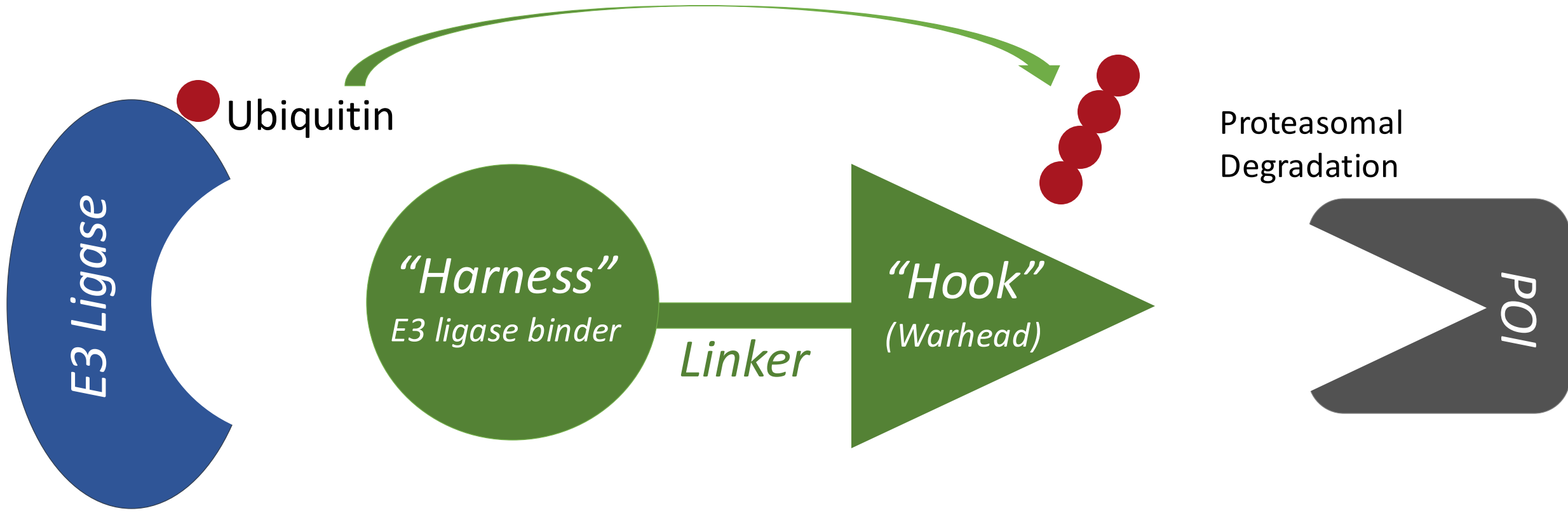
Results based on updated IGHV reclassifications. Investigator-assessed progression-free survival was analyzed.





# PROTAC therapies (Proteolysis-targeting chimera)

*Catalytic ubiquitination and degradation of target*



# Baseline demographics/disease characteristics

## Elderly population with multiple prior lines of targeted therapies

Characteristics	Patients with CLL (n=31)	Patients with NHL/WM (n=48)	Overall population (N=79)
Median age, years (range)	69.0 (35–88)	66.5 (42–87)	67.0 (35–88)
Male, n (%)	19 (61.3)	33 (68.8)	52 (65.8)
ECOG PS, n (%)			
0	13 (41.9)	13 (27.1)	26 (32.9)
1	18 (58.1)	33 (68.8)	51 (64.6)
CNS involvement, n (%)	2 (6.5)	10 (20.8)	12 (15.2)
Median prior lines of therapy (range)	4.0 (2–14)	4.0 (2–13)	4.0 (2–14)
Previous targeted treatments <sup>a</sup> , n (%)			
BTKi	30 (96.8)	29 (60.4)	59 (74.7)
≥2 BTKi	11 (35.5)	NA	NA
Pirtobrutinib	7 (22.6)	7 (14.6)	14 (17.7)
BCL2i	28 (90.3)	7 (14.6)	35 (44.3)
BTKi and BCL2i	27 (87.1)	7 (14.6)	34 (43.0)
CAR-T therapy	2 (6.5)	11 (22.9)	13 (16.5)
Bispecific antibody	1 (3.2)	7 (14.6)	8 (10.1)
PI3Ki	9 (29.0)	4 (8.3)	13 (16.5)
Chemo/chemo-immunotherapies	24 (77.4)	48 (100.0)	72 (91.1)
Mutation status, n (%)			
TP53	14/30 (46.7)	4/42 (9.5)	18/72 (25.0)
BTK	13/30 (43.3)	0/42 (0.0)	13/72 (18.1)
PLCG2	6/30 (20.0)	2/42 (4.8)	8/72 (11.1)

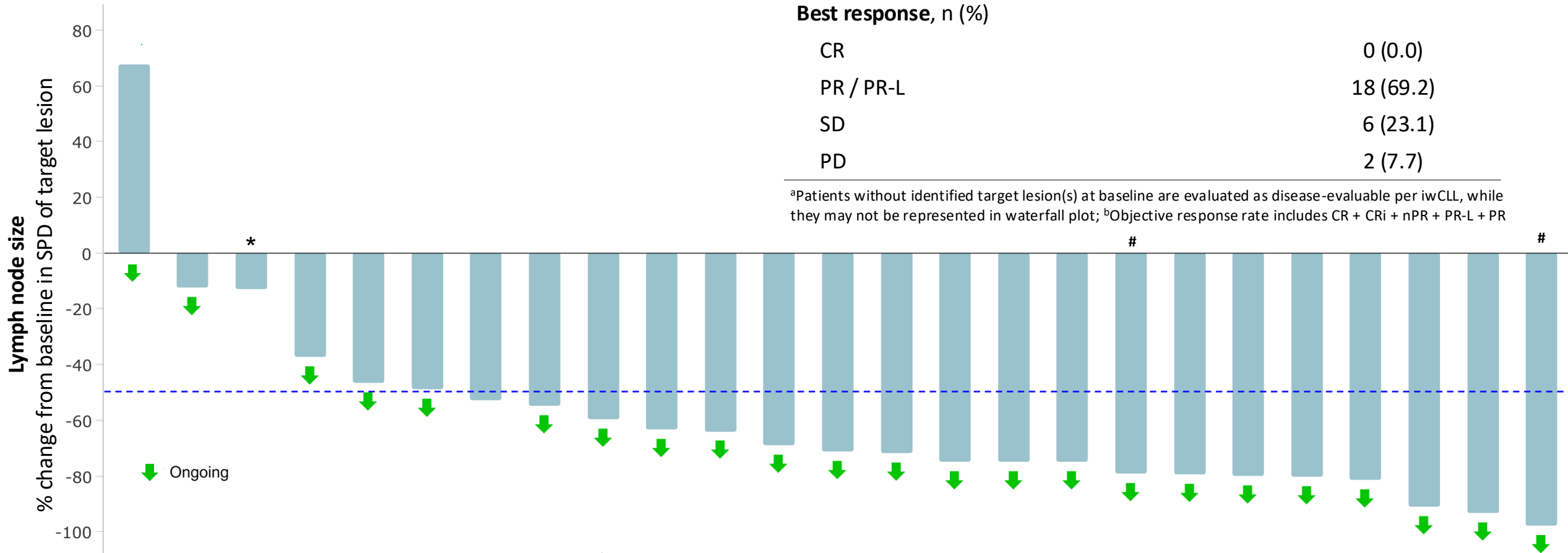
<sup>a</sup>Patients could have received multiple prior treatments; NA, not applicable

# NX-5948 efficacy: clinical response

Broad antitumor activity in CLL/SLL as demonstrated by significant lymph node reduction and ORR

CLL disease-evaluable patients <sup>a</sup>	n=26
<b>Objective response rate<sup>b</sup>, % (95% CI)</b>	69.2 (48.2–85.7)
<b>Best response, n (%)</b>	
CR	0 (0.0)
PR / PR-L	18 (69.2)
SD	6 (23.1)
PD	2 (7.7)

<sup>a</sup>Patients without identified target lesion(s) at baseline are evaluated as disease-evaluable per iwCLL, while they may not be represented in waterfall plot; <sup>b</sup>Objective response rate includes CR + CRi + nPR + PR-L + PR

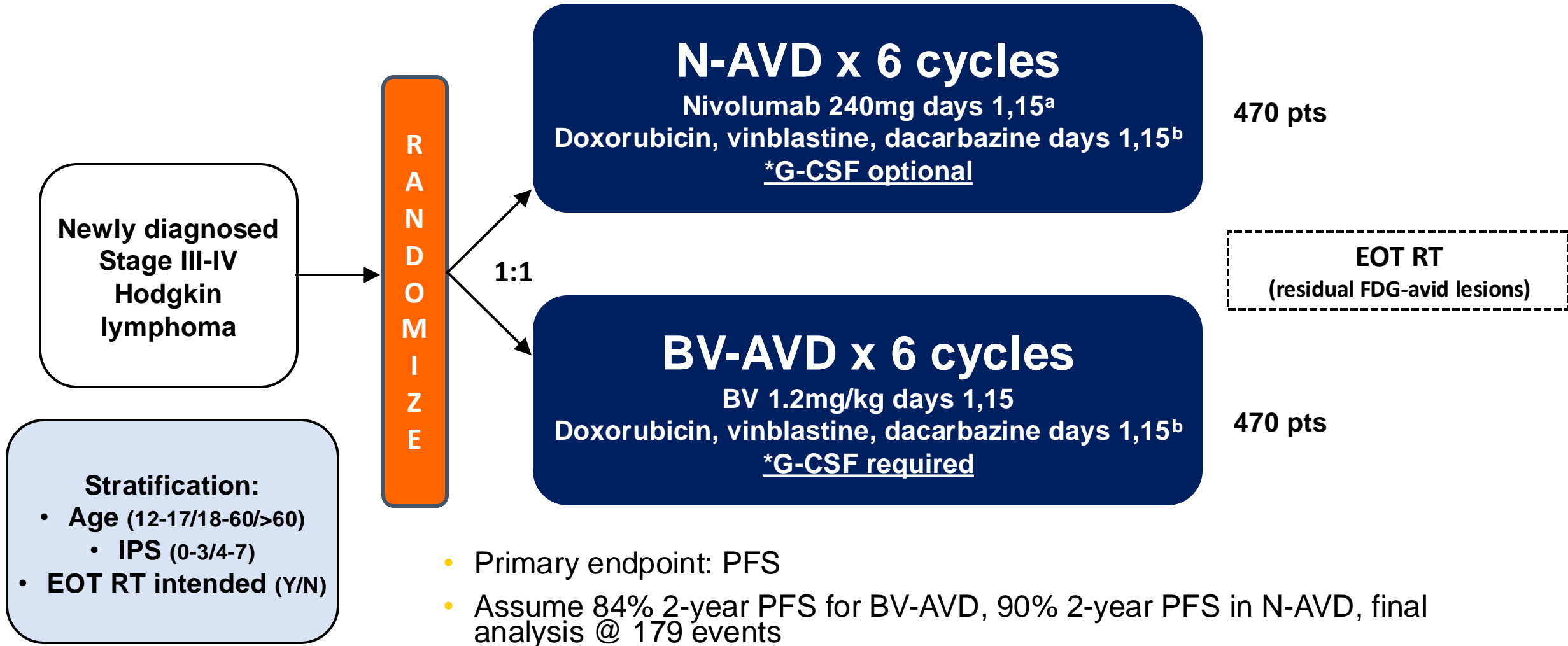


\* Patient with RT to Hodgkin's on biopsy

# Patients with CNS involvement at baseline

SPD, sum of products diameters

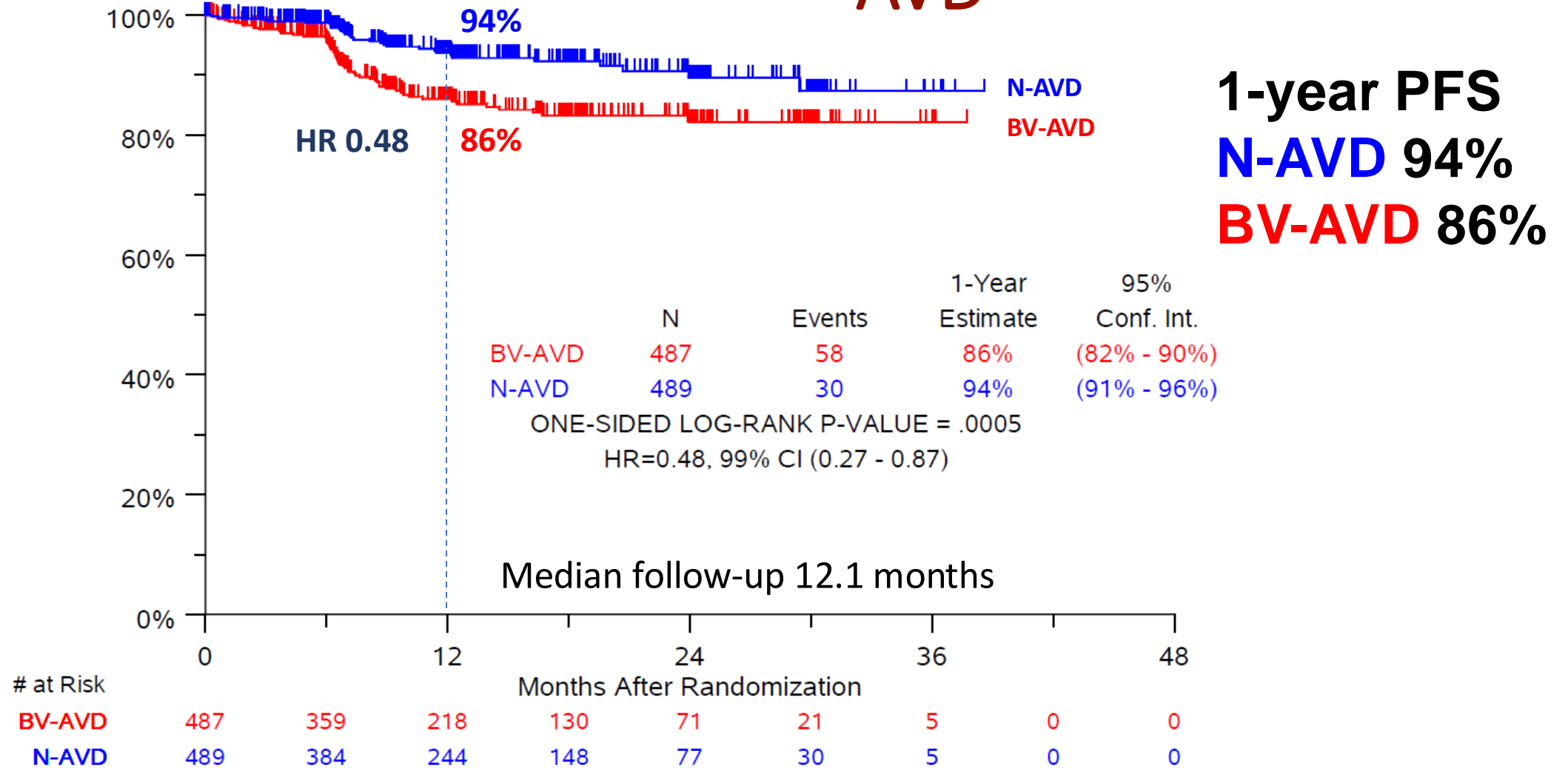
# HODGKIN LYMPHOMA: S1826 Study



<sup>a</sup> Nivolumab 3mg/kg for ages ≤ 17, max 240mg

<sup>b</sup> Conventional doses of AVD: [Stephens DM et al Blood 2019](#), Ansell, NEJM 2022

# N-AVD Improves PFS Compared to BV-AVD



# Indolent NHL: Take-Home points

- Targeted therapy replaced chemo-immunotherapy in treatment of indolent NHL
  - BTK inhibitors
  - BCL2 inhibitors
  - EZH2 inhibitors
  - CRBN modulators
  - Bi-Specific Antibodies (follicular lymphoma, mantle cell lymphoma)
  - CAR T cells (follicular lymphoma, mantle cell lymphoma)
- Combination targeted therapies are making progress
- Resistance to targeted therapies is the new change
  - BTK degraders
  - Bi-specific antibodies