

15<sup>th</sup> MADRID  
on **Lung** CONGRESS  
CANCER  
23&24  
November 2023

#15CongressGECP

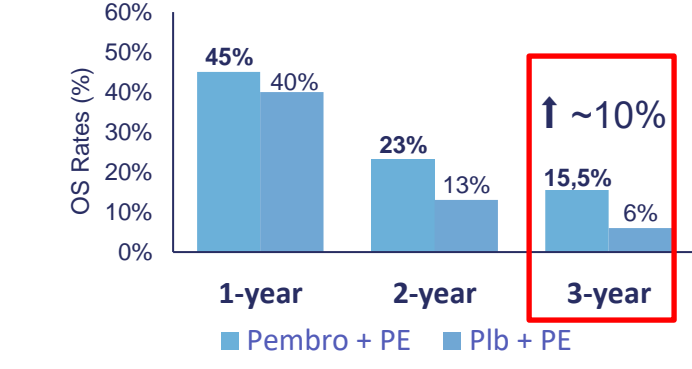
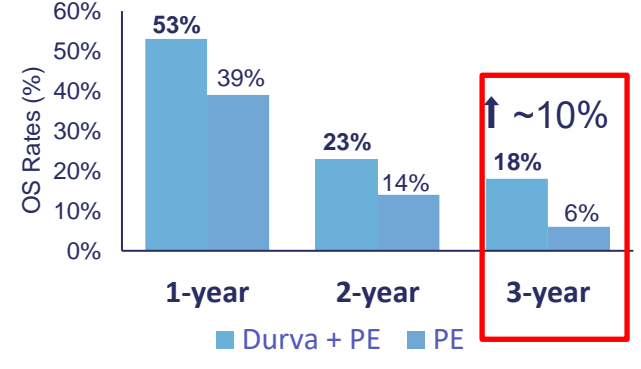
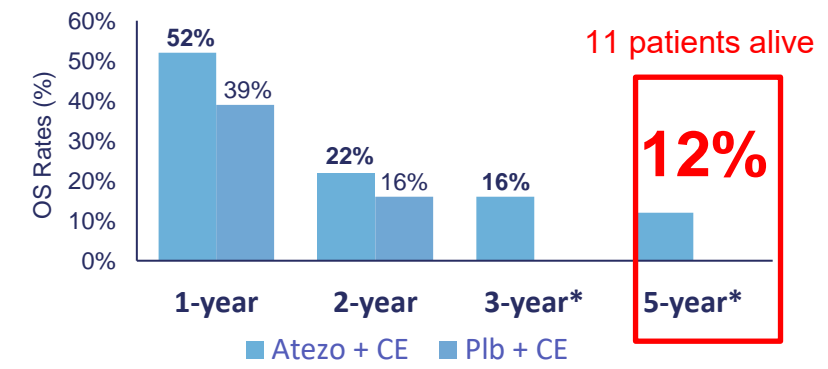
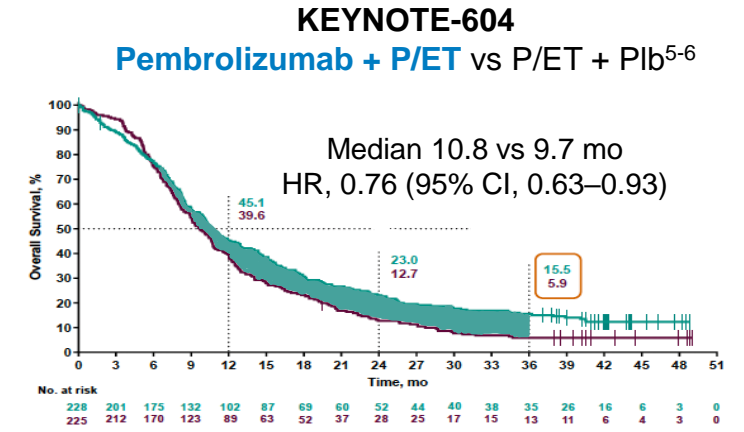
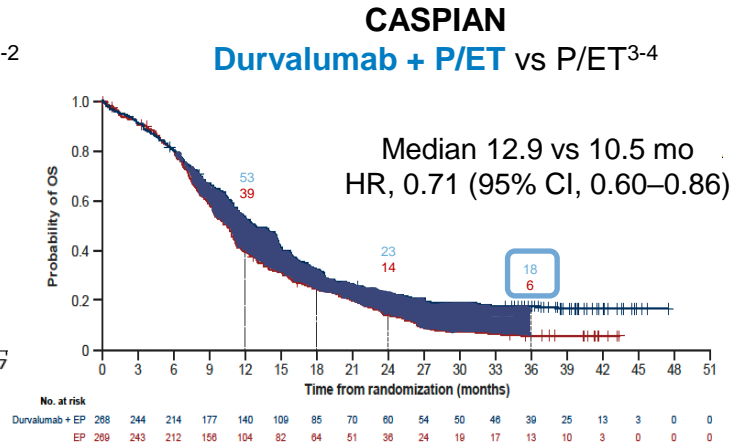
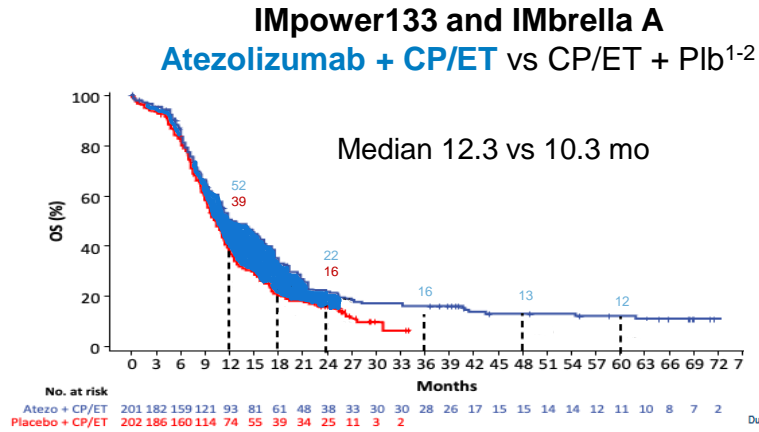
# New hopes in relapse/progression SCLC

Noemí Reguart

*Hospital Clínic Barcelona*



# First Line anti-PD-(L)1 plus chemotherapy in ES-SCLC

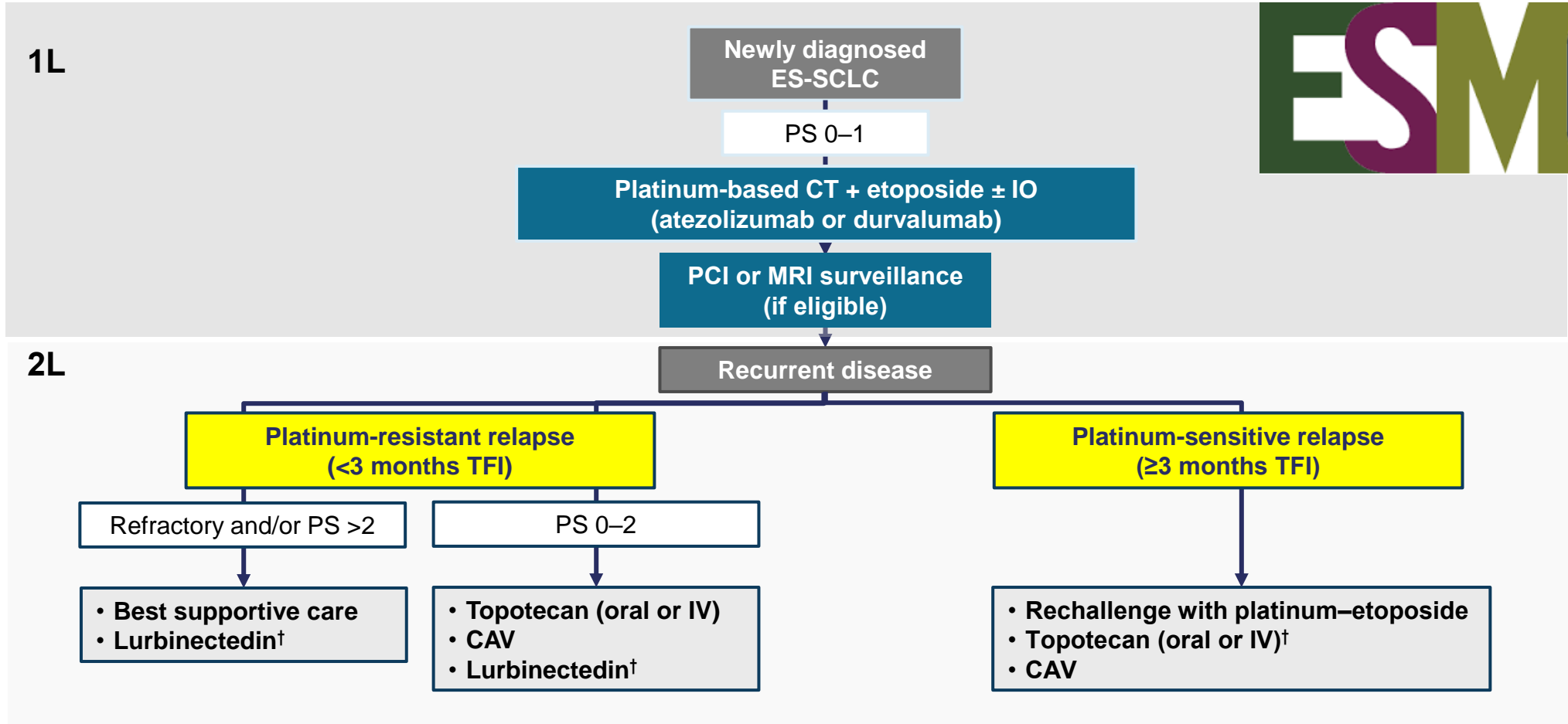


CP, carboplatin; ET, etoposide; P, platinum; Plb, placebo; NE, not estimable. \* OS rates at 3-5 years were not estimable in the control arm as rollover to IMbrella A was not permitted.

1.- Horn L, et al. N Engl J Med 2018; 2.- Liu S, et al. OA01.04, WCLC 2023; 3.- Paz-Ares L, et al. Lancet 2019; 4.- Paz-Ares L, et al. ESMO Open 2022; 5.- Rudin CM, et al. J Clin Oncol 2020; 6.- Rudin CM, et al. WCLC 2022



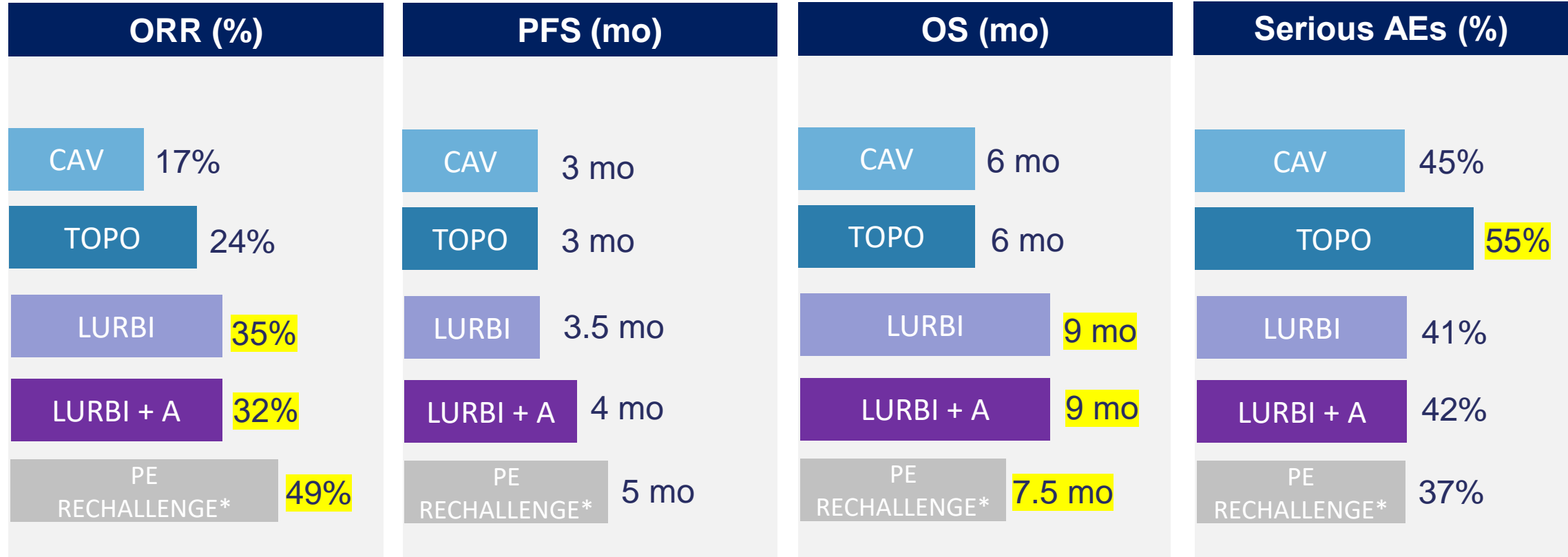
# Treatment algorithm for ES-SCLC: ESMO guidelines



† Granted approval in the USA (June 2020), Canada (September 2021), Australia (September 2021), and the UAE (September 2021). Lurbinectedin is not approved by the EMA for treatment of SCLC, only given orphan designation by the EMA in Feb 2019.



## There Remains a Need for Improved Therapies in Relapsed SCLC



\*CTFI ≥90 days



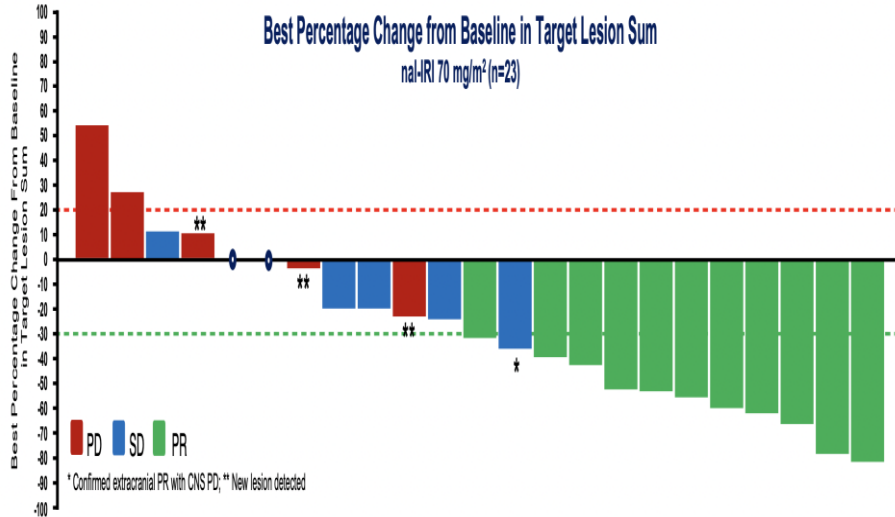


# Some Failures: Liposomal Irinotecan (Nal-Iri)

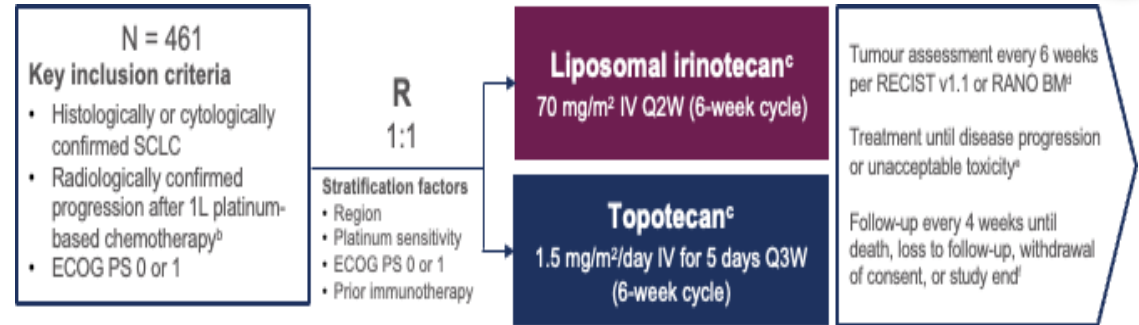
## RESILIENT part 1: phase 2 dose-exploration Liposomal irinotecan 70 mg/m<sup>2</sup> weekly<sup>1-2</sup>



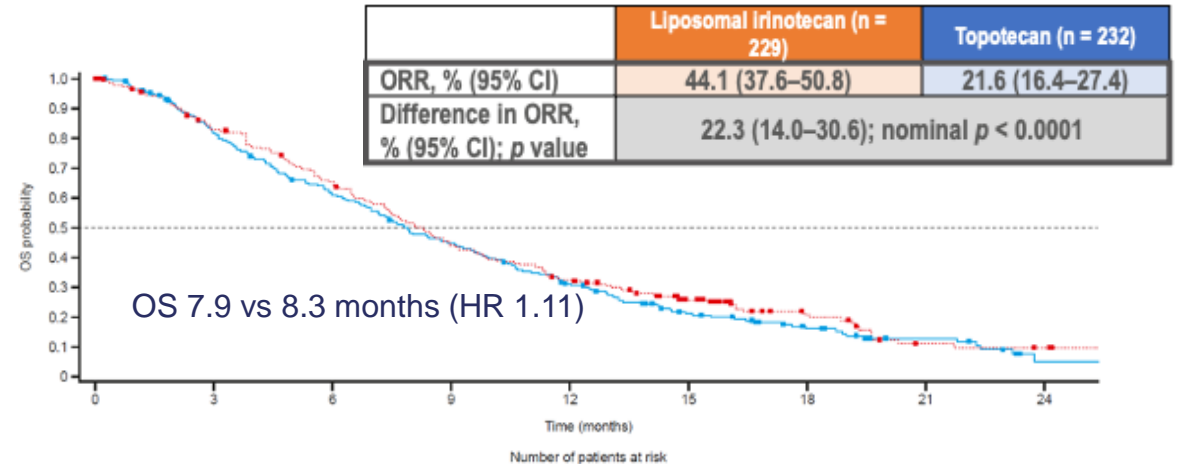
- **ORR: 44%**
- Median DOR: 2.99 months
- Median PFS: 3.98 months



## RESILIENT part 2: phase 3 (NCT03088813) Liposomal irinotecan vs topotecan (n=480)<sup>3</sup>



Primary endpoint: OS





# Combination of Lurbinectedin-Irinotecan in relapsed SCLC

## Phase 1b/2 trial

Lurbinectedin 2 mg/m<sup>2</sup> on D1 plus Irinotecan 75 mg/m<sup>2</sup> on D1 and D8, WITH G-CSF (n=21)

### Efficacy summary

Outcome	All pts (N=21)	CTFI		Disease setting	
		≥90 days (n=13)	<90 days (n=8)	2L (n=13)	3L (n=8)
ORR, %	62	69	50	77	38
Clinical benefit, %*	81	92.3	62.5	92.3	62.5
Disease control, % <sup>†</sup>	90	100	75	100	75
Median DOR, m (95% CI)	6.7 (3.0, NR)	7.5 (3.0, NR)	3.7 (2.8, 3.7)	6.7 (3.0, NR)	3.0 (3.0, NR)
Median PFS, m (95% CI)	6.2 (4.3, 8.5)	8.1 (4.3, NR)	4.8 (0.7, 5.0)	8.5 (4.8, NR)	4.2 (0.7, 7.2)

### Safety profile

- Grade ≥3 AEs in 16 patients (76%)
- Serious AEs in 6 patients (28.5%)
- Most common Grade ≥3 AEs: neutropenia (62%), diarrhea (29%), fatigue (24%), anemia (19%)
- No AEs leading to death or discontinuation
- Dose reductions 52%





# Combination of Lurbinectedin-Pembrolizumab in relapsed SCLC

## Phase 1/2 trial (LUPER)

Lurbinectedin 3.2 mg/m<sup>2</sup> plus Pembro 200 mg IV on D1 Q3W , WITHOUT G-CSF (n=28) in pts who did not receive previous IO

### Efficacy summary

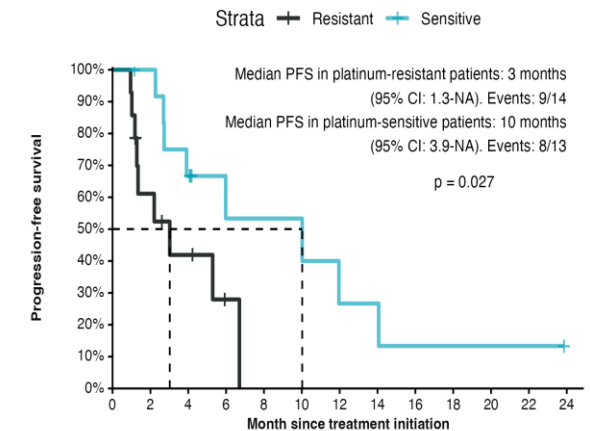
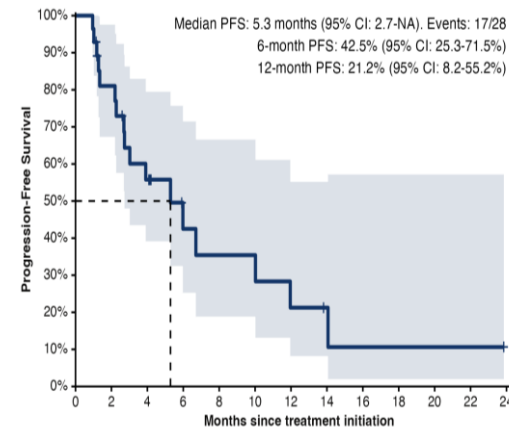
Outcome	All pts (N=28)	CTFI	
		≥90 days (n=13)	<90 days (n=14)
ORR, %	46	54	36
Clinical benefit, %*	61	77	43
Median DOR, m (95% CI)	3 (0.03, 21NR)	-	-
Median PFS, m (95% CI)	5.3 (2.7, NA)	10 (3.9, NA)	3 (1.3, NA)

NCT04358237

1.-Calles A, et al. Presentation at ESMO 2023.

### Safety profile

- Grade ≥3 AEs in 23 patients (**82%**)
- Serious AEs in 12 patients (**43%**)
- Most common Grade ≥3 AEs: neutropenia (**64%**), ALAT increase (**14%**), anemia (**11%**)
- Discontinuation of any study-drug (**14%**)
- Dose reductions **29%** (Lurbinectedin)



\*Clinical benefit rate defined as PR or SD for more than 4 months; †Disease control rate defined as PR + SD.



## Ongoing combination trials of Lurbinectedin in Relapsed SCLC

Study identifier	Setting	Phase	Treatment arms	Estimated PCD
IMforte (Global) <sup>1</sup>	1L-M	3	Maintenance lurbinectedin + atezolizumab vs atezolizumab	Ongoing
LAGOON (Global) <sup>2</sup>	2L	3	Lurbinectedin + irinotecan vs lurbinectedin vs topotecan/irinotecan	Ongoing
LURBIMUNE (France) <sup>3</sup>	2L	2	Lurbinectedin + durvalumab vs carboplatin/etoposide	Ongoing
NCT04610658 (US) <sup>4</sup>	2L	1/2	Lurbinectedin + nivolumab–ipilimumab	Ongoing
2SMALL (Spain) <sup>5</sup>	2L	1/2	Lurbinectedin + atezolizumab	Ongoing

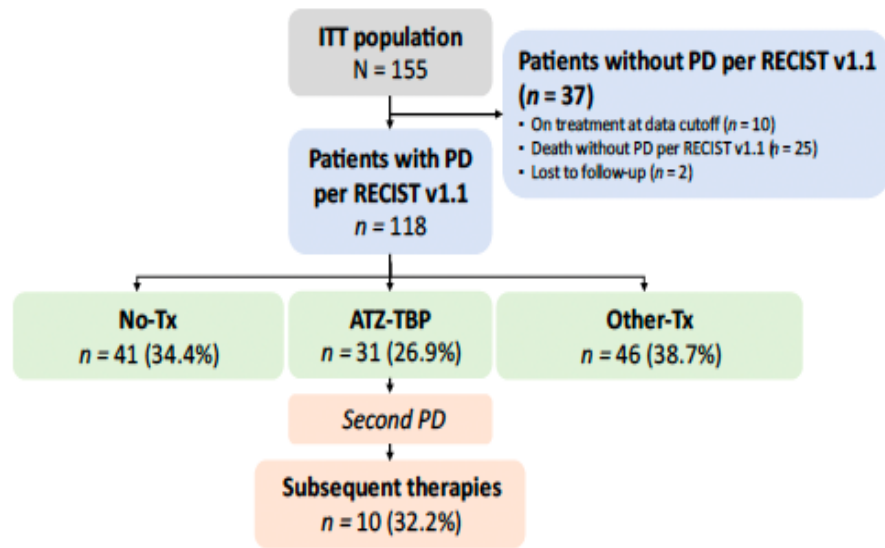
1. ClinicalTrials.gov: NCT05091567. Available at: <https://clinicaltrials.gov/ct2/show/NCT05091567>;  
 2. ClinicalTrials.gov: NCT05153239. Available at: <https://clinicaltrials.gov/ct2/show/NCT05153239>;  
 3. ClinicalTrials.gov: NCT05572476. Available at: <https://clinicaltrials.gov/ct2/show/NCT05572476>;  
 4. ClinicalTrials.gov: NCT04610658. Available at: <https://clinicaltrials.gov/ct2/show/NCT04610658>;  
 5. ClinicalTrials.gov: NCT04253145. Available at: <https://clinicaltrials.gov/ct2/show/NCT04253145>;

PCD, primary completion date. M, maintenance.





# IMfirst Study: Exploratory analysis of ATZ beyond progression



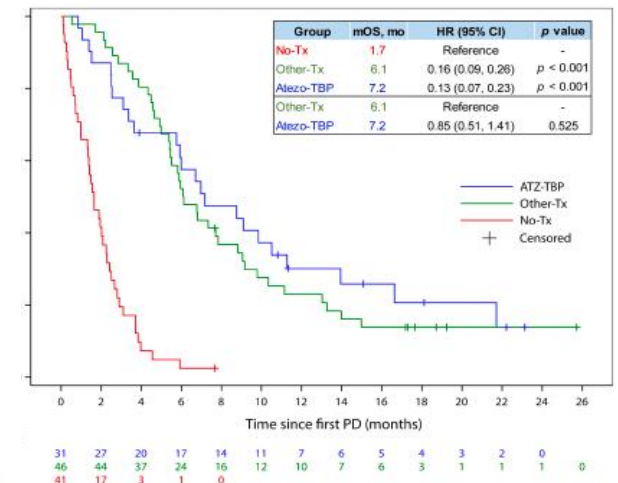
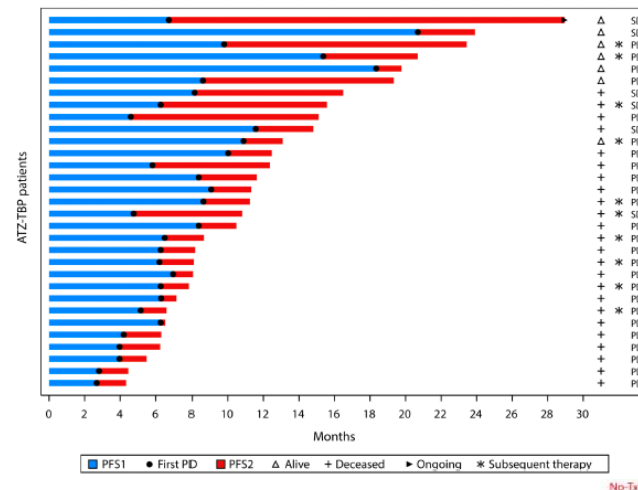
Months (95% CI)	Patients with PD per RECIST v1.1 (n = 118)		
	ATZ-TBP (n = 31)	Other-Tx (n = 46)	No-Tx (n = 41)
<b>Progression-free survival (PFS) ‡</b>			
mPFS1	6.5 (6.2, 8.4)	6.2 (5.0, 6.7)	5.1 (4.6, 6.4)
mPFS2 (since TBP)	2.2 (1.9, 3.24)	n.a.	n.a.
<b>Overall survival (OS)</b>			
mOS since treatment initiation	14.3 (9.9, 21.4)	12.6 (10.2, 15.2)	7.3 (5.7, 8.6)
mOS Post-PD	7.2 (3.6, 11.3)	6.1 (5.4, 8.8)	1.7 (0.9, 2.3)

CI, confidence interval; n.a., not available; ‡ Tumor assessments were performed every 6 weeks during the induction phase and every 9 weeks after completion of the induction phase.

• Patients were allowed to continue ATZ after radiographic PD per RECIST v1.1, provided that the following criteria were met:

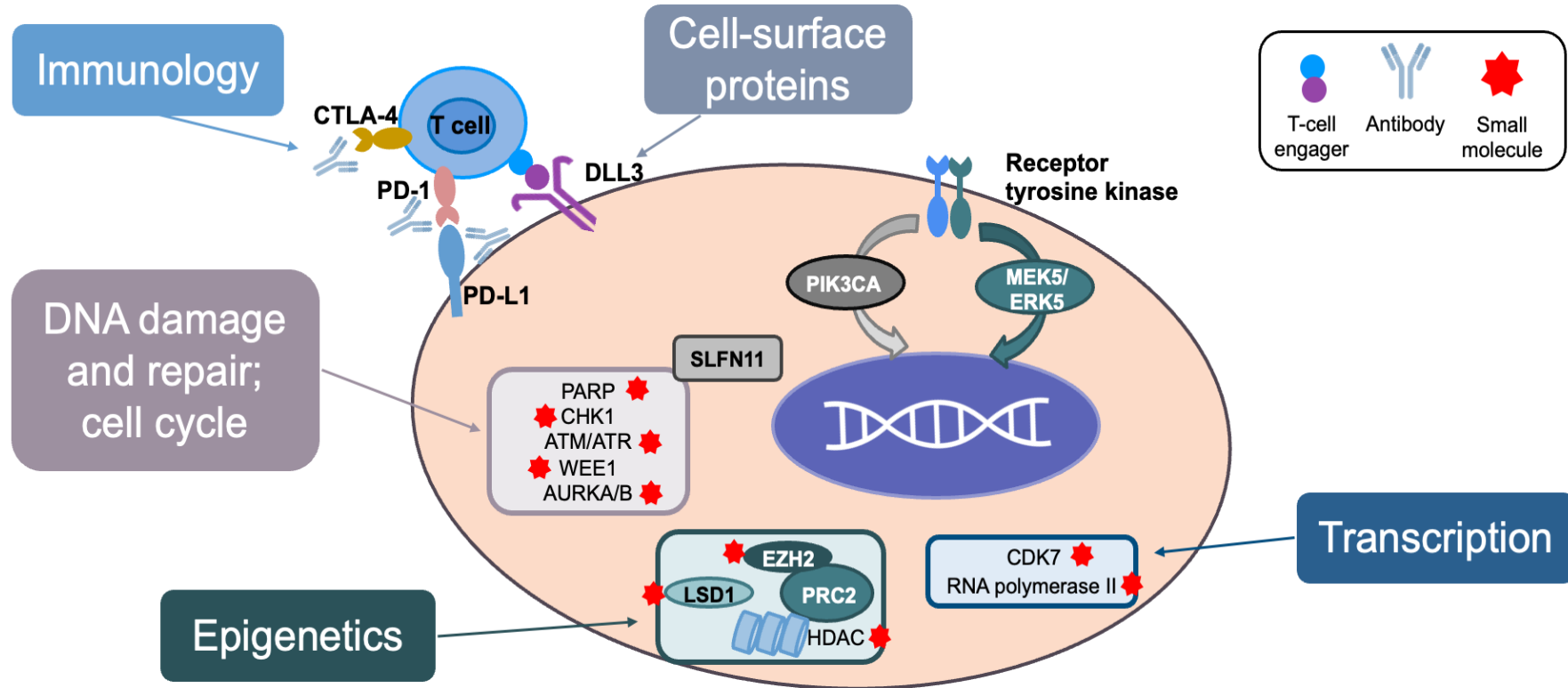
- Evidence of clinical benefit assessed by the investigator
- No decline in ECOG PS attributable to PD
- Absence of tumor progression at critical anatomical sites not manageable with protocol-allowed medical interventions
- Patients' written consent deferring other treatments at the time of initial progression

1. Garcia-Campelo C, et al. Presented at WCLC 2023. Poster: P2.14-04





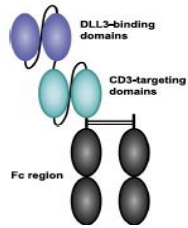
# Targeting SCLC Surfaceome



1. Sabari JK, et al. Nat Rev Clin Oncol 2017; 2. Taniguchi H, et al. Front Oncol 2020.

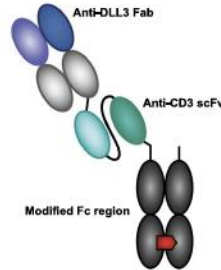
# DLL3/CD3 Targeted Therapies: T-Cell Engagers

**Tarlatamab**  
 Bispecific mAb (BiTE®)  
 Amgen  
 (Phase 2-3)

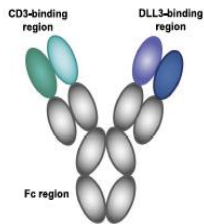


Fc domain  
 (to extend half-life)

**QLS31904**  
 Bispecific mAb  
 Qilu Pharmaceuticals  
 (Phase 1)

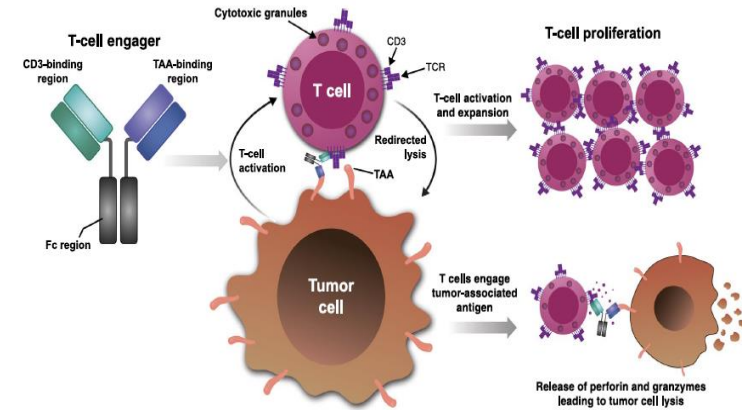
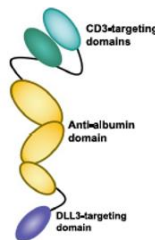


**BI 764532<sup>2</sup>**  
 Bispecific mAb  
 Boehringer Ingelheim  
 (FIH)

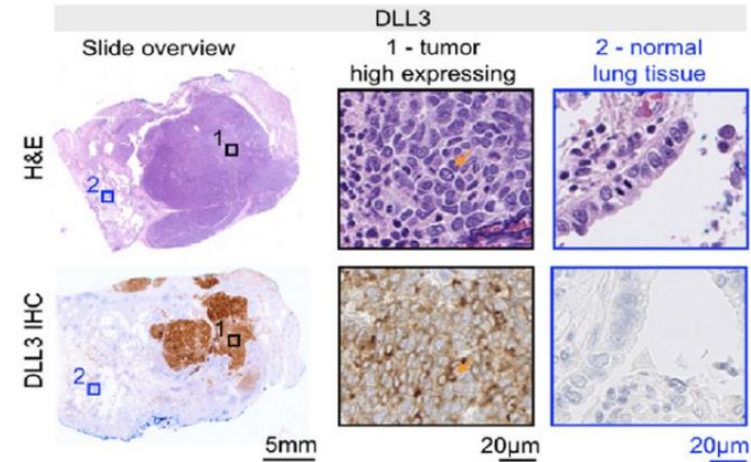


IgG-like  
 structure

**HPN328**  
 Trispecific mAb (TriTAC®)  
 Harpoon Therapeutics  
 (Phase 1/2)



DLL3 is highly upregulated and expressed on the surface of SCLC tumour cells (80% RNA and protein) and other neuroendocrine tumours<sup>3,4</sup>





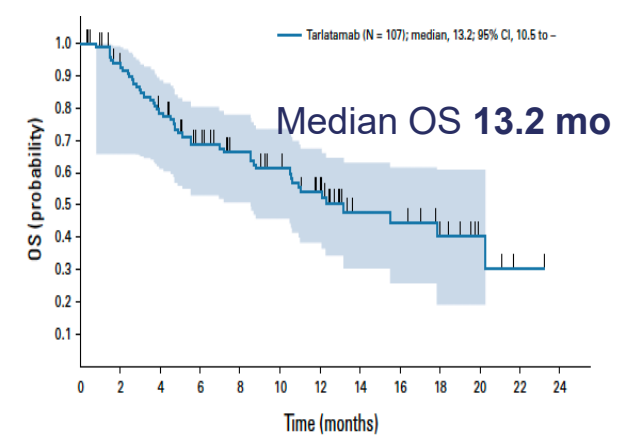
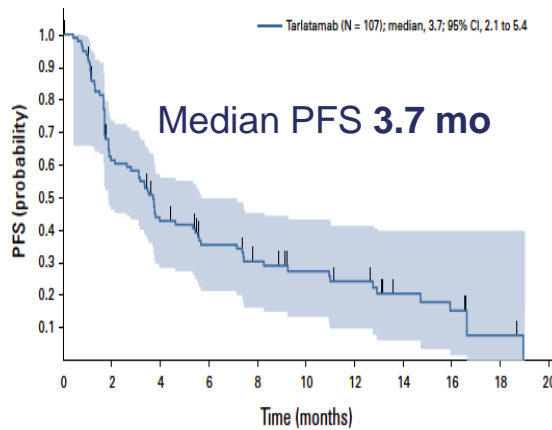
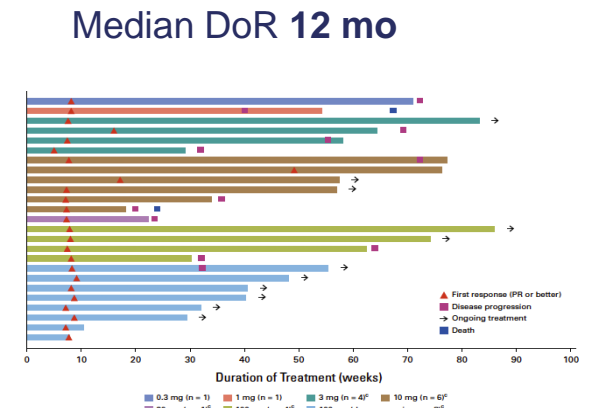
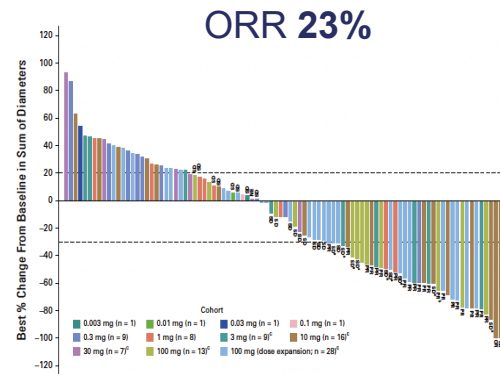
# Tarlatamab (AMG 757): DeLLphi-300 Trial

## Preliminary Safety and Efficacy of Tarlatamab in Relapsed/Refractory SCLC



SAFETY	TARLATAMAB <sup>2-3</sup>
N	107 SCLC
Grade ≥ 3 AEs	<b>31%</b>
CRS (all/Grade ≥ 3)	<b>52%/1%</b>
ICANs (all/Grade ≥ 3)	<b>50%/7%</b>
Neutropenia (all/Grade ≥ 3)	16%/10%
Grade 5 AEs	1 pneumonitis
Discontinuation rate	<b>4%</b>

ICANs, Immune effector cell-associated neurotoxicity syndrome  
 CRS, Cytokine release syndrome



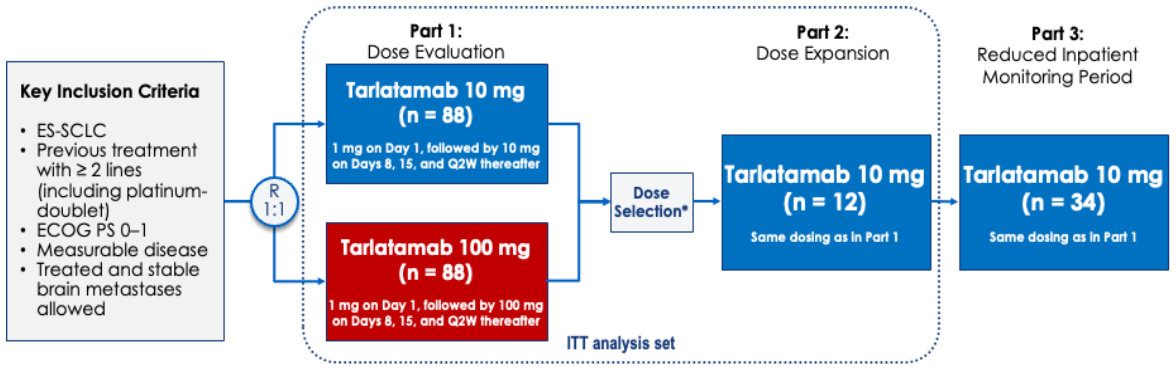
1.- Borghaei H, et al, WCLC 2022; 2.- Paz-Ares, et al JCO 2023



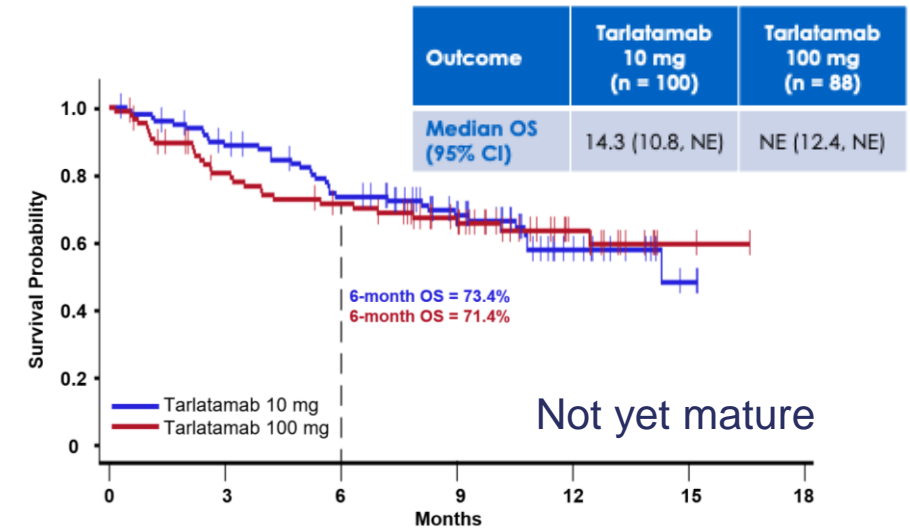
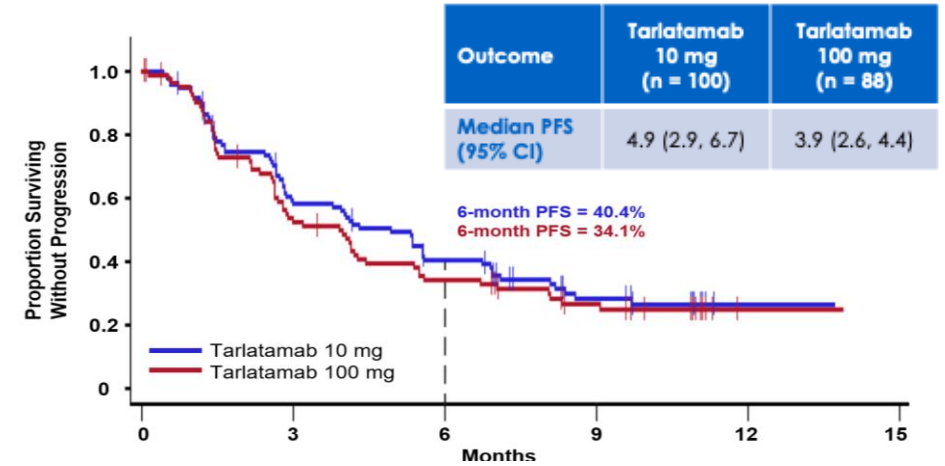
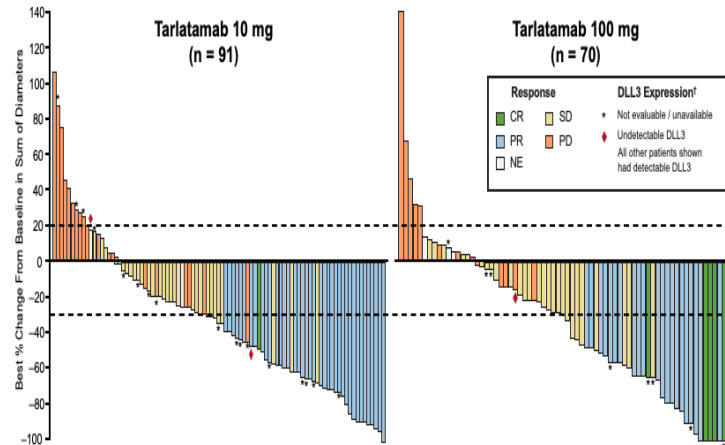


# Tarlatamab (AMG 757): DeLLphi-301 Trial

## Phase 2 Study of Tarlatamab in 3L or Later SCLC



EFFICACY	T 10 mg (n = 100)	T 100 mg (n = 88)
ORR	40%	32%
CR	1%	8%
DoR 6 mo	59%	



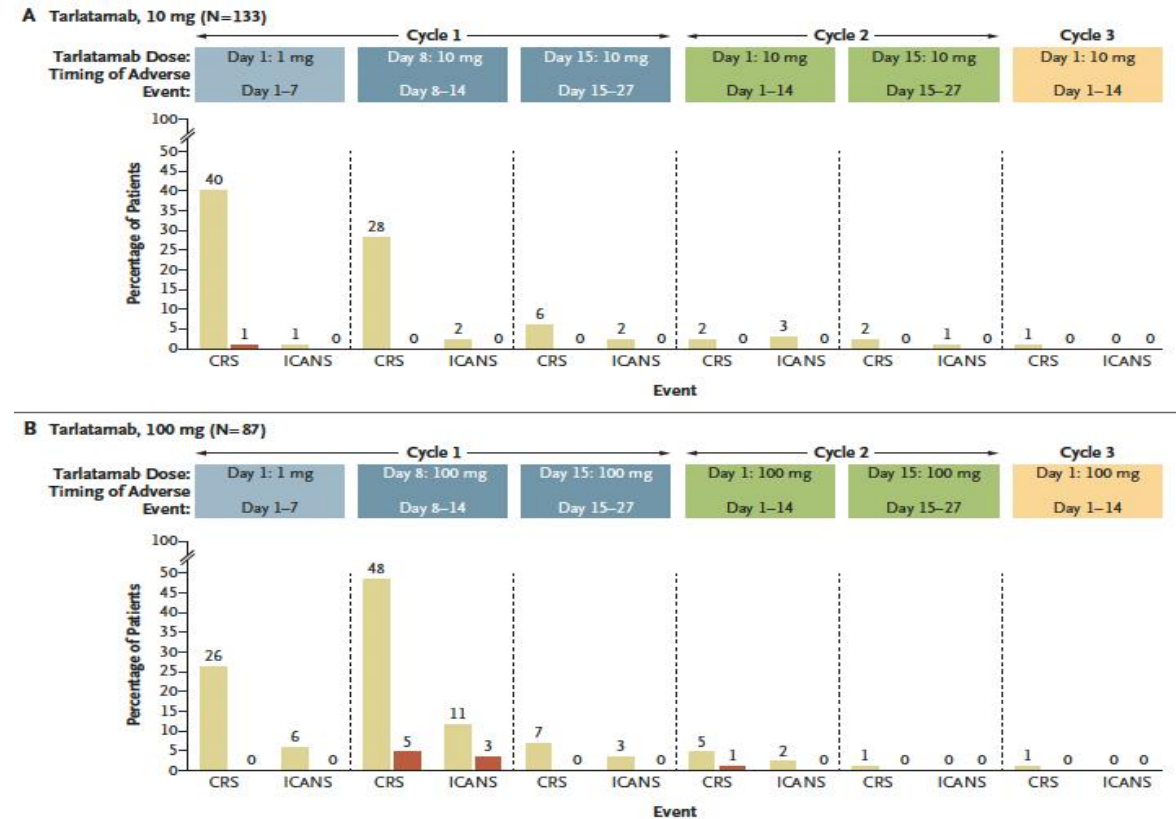


# DeLLphi-301 Trial: Safety

TEAEs, n (%)	Part 1 + 2 T 10 mg (n = 99)	Part 3 T 10 mg (n = 34)	Part 1 T 100 mg (n = 87)
Any grade	96 (97)	34 (100)	87 (100)
≥ Grade 3	57 (58)	22 (65)	56 (64)
Related to tarlatamab, any	89 (90)	29 (85)	81 (93)
≥ Grade 3	<b>20 (29)</b>	5 (15)	<b>29 (33)</b>
Fatal	0	1 (3) <sup>†</sup>	0
CRS, any	<b>49 (49)</b>	19 (56)	<b>53 (61)</b>
≥ Grade 3	0	1 (3)	<b>5 (6)</b>
ICANS, any	<b>7 (7)</b>	4 (12)	<b>24 (28)</b>
≥ Grade 3	0	0	<b>4 (5)</b>
Leading to dose interruption/reduction	14(14)	3 (9)	<b>25 (29)</b>
Leading to discontinuation	<b>4 (4)</b>	0	3 (3)

1.- Paz-Ares L. et al ESMO 2023; 2.- Ahn MJ, et al. NEJM 2023

## CRS and Immune Effector Cell-Associated Neurotoxicity Syndrome (ICANS)\*



Tarlatamab 10 mg Q2w selected dose for further development





# FIH dose escalation trial of BI 764532

ECOG 0-1 and DLL3-positive required for inclusion



PRIMARY ENDPOINT SAFETY (MTD/DLT)	BI 764532 (SCLC/LCNEC)
N	66 (57 SCLC/ 9 LCNEC)
CRS (all/G3)	48%/2%
ICANs	2 cases (all G3)
Grade ≥ 3 AEs	53%
Most common Grade ≥ 3	Lymphopenia (18%)
Grade 5 AEs	1 pneumonitis
Discontinuation rate	6%

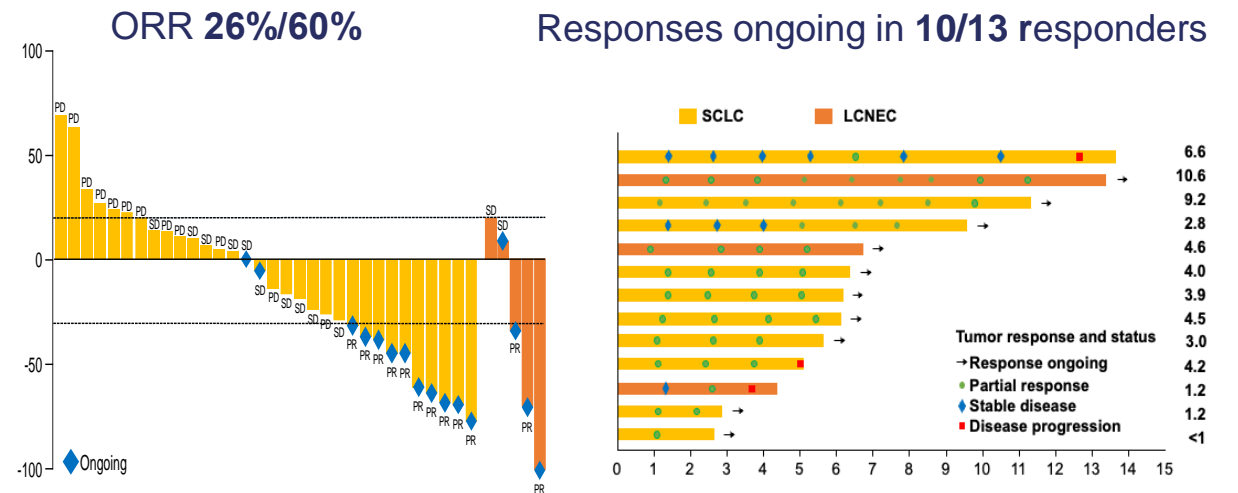
ICANs, Immune effector cell-associated neurotoxicity syndrome  
 CRS, Cytokine release syndrome  
 epNEC: extrapulmonary neuroendocrine

## Secondary endpoint: EFICACY (ORR in SCLC/LCNEC, N=44)

Efficacy observed at doses **≥ 90 µg/kg**

ORR (at doses ≥ 90 µg/kg): **SCLC 26%, LCNEC 60%**

**Durable responses the majority ongoing (10/13)**










# Antibody-Drug Conjugates (ADCs) in SCLC

Target	Agent	Payload	Payload MoA	Clinical Development
<b>DLL-3</b>	ROVA-T (Rovalpituzumab Tesirine)	Pyrrolobenzodiazepine	DNA-crosslinking	Phase 3 Discontinued 
<b>TROP-2</b>	IMMU-132 (Sacituzumab Govitecan) SKB264	SN-38 (irinotecan metab) KL610023 (Belotecan metab)	TOPO I inhibitor TOPO I inhibitor	Phase 2 (TROPiCS-03) Phase 1 (NCT04152499)
<b>SEZ6</b>	ABBV-011 ABBV-706	Calicheamicin Undisclosed cytotoxic	DNA-cleaver TOPO I inhibitor	FIH/Phase 1 (NCT03639194) FIH/Phase 1 (NCT05599984)
<b>B7-H3</b>	DS-7300a (Ifinatamab Deruxtecan, I-DXd) ABBV-155 (Mirzotamab Clezutoclax)	Deruxtecan (DXd) Clezutoclax	TOPO I inhibitor BCL2/XL inhibitor	Phase 2/3 (IDeate-1, IDeate-2) Phase 1 (NCT03595059)
<b>CEACAM5</b>	SARA08701 (Tusamitamab ravtansine)	Maytansine (DM4)	Microtubule inhibitor	Phase 1 (NCT02187848)



## Learnings from the ROVA-T (DLL3-targeted ADC): Bad Target or a Bad Payload?

### TRINITY Phase 2 (NCT02674568)<sup>1</sup>

- Rova-T monotherapy in 3L or beyond
- ORR 12.4%, OS 5.6 months
- Serious TRAEs 30% (3 patient fatalities)

### TAHOE Phase 3 (NCT03061812)<sup>2</sup>

- Rova-T vs topotecan in 2L
- Shorter OS in the Rova-T arm vs control arm

### MERU Phase 3 (NCT03033511)<sup>3</sup>

- Rova-T as 1L as maintenance
- Stopped: lack of OS benefit at the interim analysis

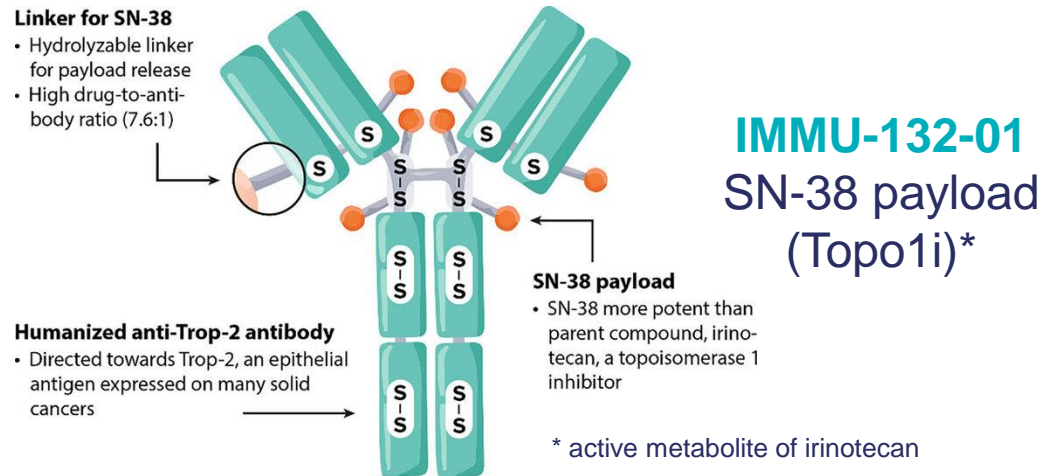
- Rova-T (rovalpituzumab tesarine) is a DLL3-targeted **antibody drug conjugate** that delivers cytotoxic PBD when internalised<sup>4</sup>
- Research and development of Rova-T discontinued in 2019<sup>3</sup>
- **DLL3 remains an intriguing target** for multiple alternative therapeutic strategies<sup>5</sup>

**DISCONTINUED**



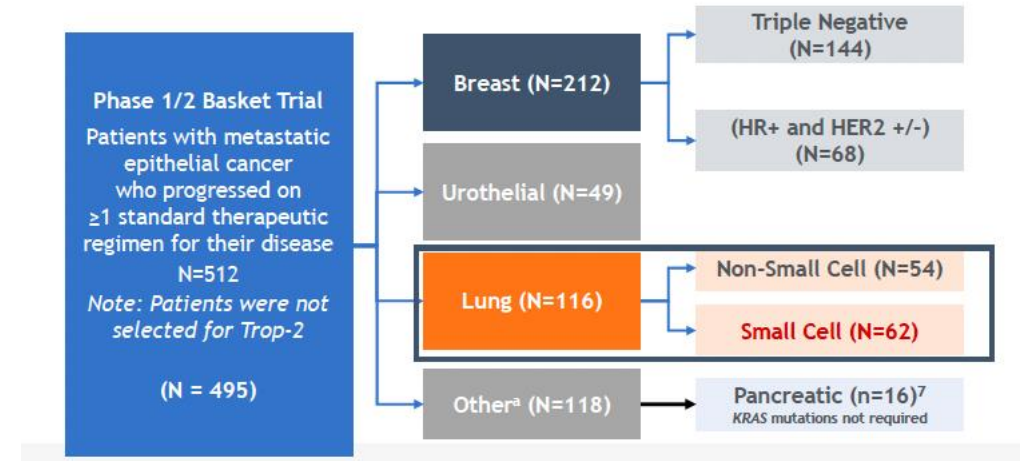
# Targeting TROP2

## Sacituzumab Govitecan (IMMU-132-01, Gilead)



- TROP-2 overexpression in high-grade neuroendocrine tumors (**SCLC ~10%**)
- Phase I/II SCLC cohort preliminary ORR **18% patients with SCLC**
- Responses despite prior exposure to etoposide (100%) or irinotecan (34%)

Phase I Basket trial (Pretreated SCLC n=62)



Cohort <sup>a</sup>	N	ORR (%)	Median DOR, Months	Median PFS, Months (95% CI)	Median OS, Months (95% CI)
mTNBC <sup>b,1</sup>	108 <sup>c</sup>	33	7.7	5.5 (4.1-6.3)	13.0 (11.2-13.7)
HR <sup>+</sup> /HER2- mBC <sup>2</sup>	54 <sup>c</sup>	31	8.7	5.5 (3.6-7.6)	12.0 (9.0-18.2)
mUC <sup>b,3</sup>	45	31	12.9	6.8 (3.6-9.7)	16.8 (9.0-21.9)
NSCLC <sup>4</sup>	54	17	6.0	5.2 (3.2-7.1)	9.5 (5.9-16.7)
<b>SCLC<sup>5</sup></b>	<b>62</b>	<b>18</b>	<b>5.7</b>	<b>3.7 (2.1-4.8)</b>	<b>7.1 (5.6-8.1)</b>

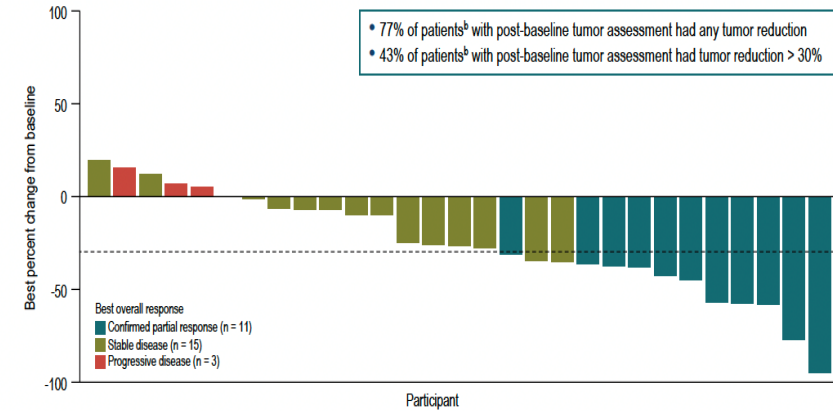
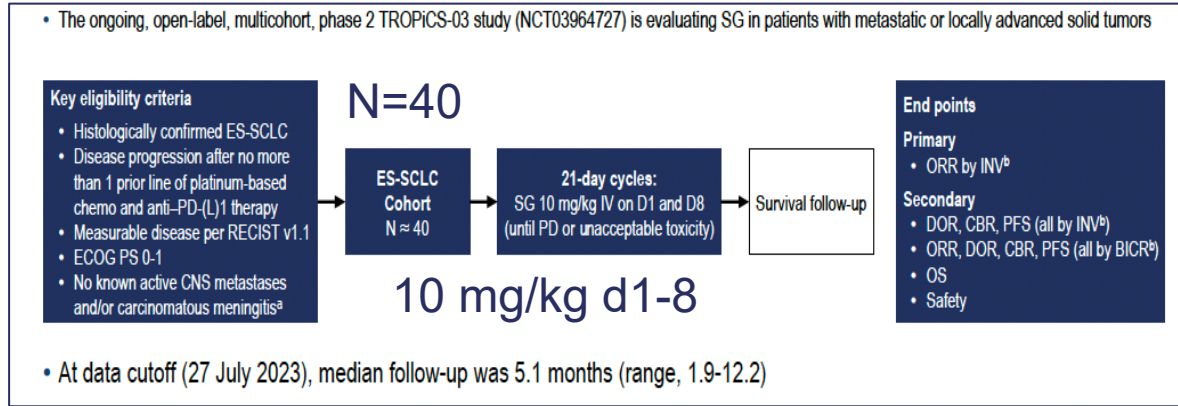
1.-Bardia A et al. Ann Oncol. 2021; 2.-Inamura K et al. *Oncotarget*. 2017; 3.-Gray JE et al. Clin Cancer Res. 2017



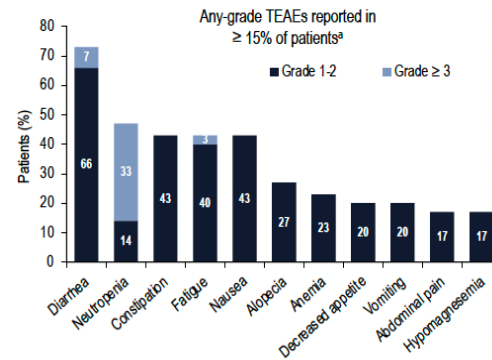


# TROPiCS-03:

## Phase 2 Basket Trial Study Of Sacituzumab Govitecan In Subjects With SCLC



Safety-evaluable patients, n (%)	ES-SCLC N = 30 <sup>a</sup>
<b>Any-grade TEAEs</b>	30 (100)
Related to study treatment	28 (93)
<b>Grade ≥ 3 TEAEs</b>	18 (60)
Related to study treatment	15 (50)
<b>Serious TEAEs</b>	9 (30)
Related to study treatment	4 (13)
<b>TEAEs leading to dose reduction</b>	8 (27)
<b>TEAEs leading to discontinuation</b>	0
Related to study treatment	0
<b>TEAEs leading to death</b>	0
Related to study treatment	0



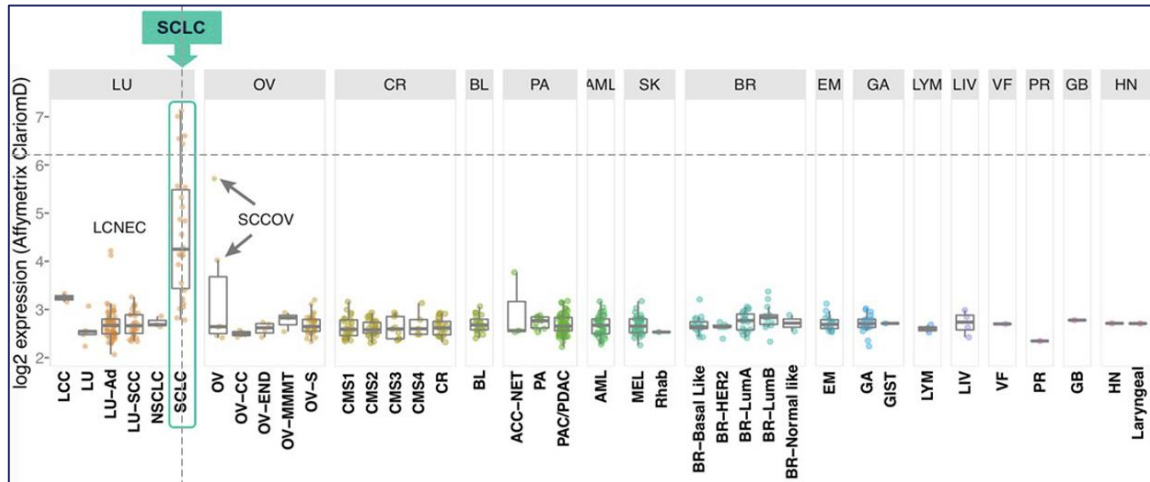
Most common AEs:  
 diarrhea, neutropenia

Efficacy by INV <sup>a</sup>	ES-SCLC N = 30 <sup>b</sup>
<b>ORR [Confirmed CR + PR] (95% CI), %</b>	37 (20-56)
<b>BOR, n (%)</b>	
Confirmed PR	11 (37)
SD	15 (50)
PD	3 (10)
<b>DCR [Confirmed CR + PR + SD] (95% CI), %</b>	87 (69-96)
<b>CBR [Confirmed CR + PR + SD ≥ 6 months] (95% CI), %</b>	40 (23-59)
<b>Median DOR (95% CI),<sup>c,d</sup> months</b>	6.3 (2.7-NR)
DOR rate at 6 months (95% CI), <sup>c,d</sup> %	63 (14-89)



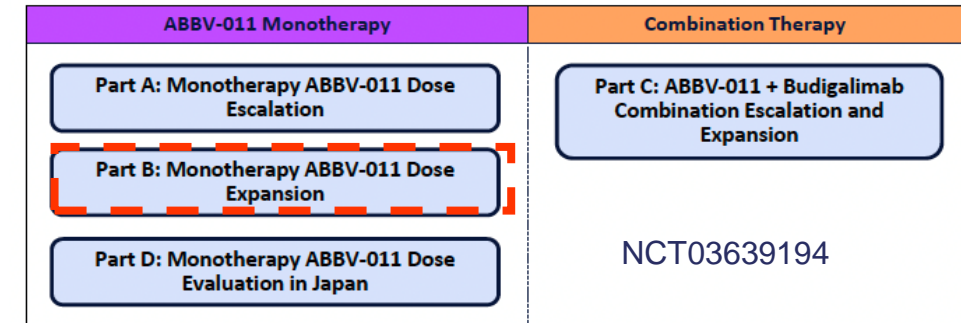
# SEZ6-targeted ADCs (ABBV-011; ABBV-706)

- **Seizure-related homolog 6 (SEZ6)** is a transmembrane protein on select neuronal lineage cells<sup>1</sup>
- SEZ6 is **highly expressed in SCLC** and in other NE tumors with minimal expression in normal tissues<sup>1</sup>



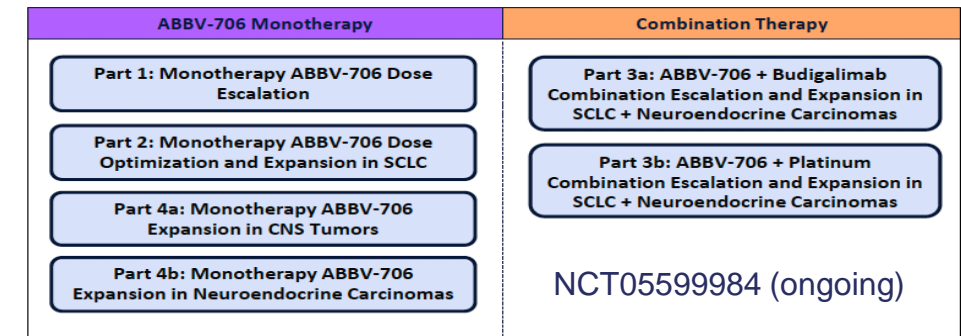
## ABBV-011, Calicheamicin-Based

FIH in relapsed or refractory SCLC<sup>2</sup>



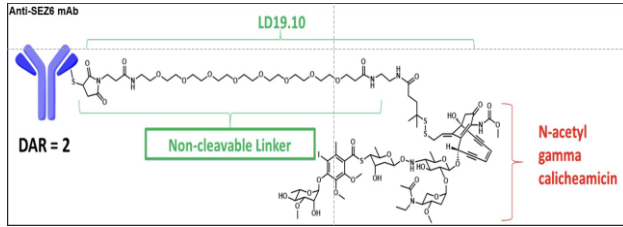
## ABBV-706, TOPO-1i- Based

FIH in advanced solid tumors

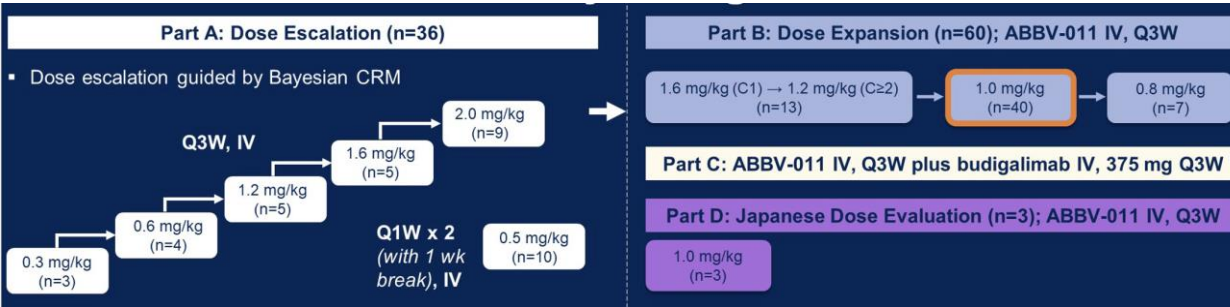




# FIH SEZ6-targeted ADCs (ABBV-011) in relapsed SCLC



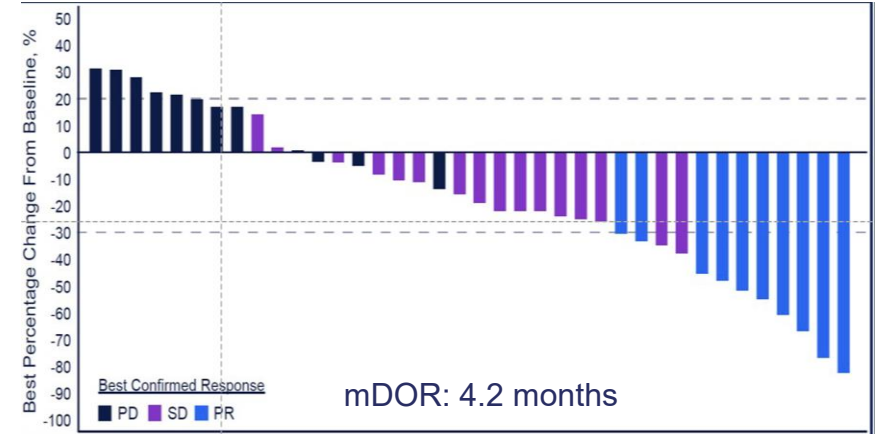
## ABBV-011 Calicheamicin payload



	1 mg/kg n=40	Total N=99
Any TEAE, n (%)	39 (98%)	96 (97%)
Grade ≥3 TEAE, n (%)	26 (65%)	63 (64%)
Serious TEAEs, n (%)	18 (45%)	41 (41%)
Treatment-related AEs, n (%)	31 (78%)	76 (77%)
Associated with discontinuation	3 (8%)	13 (13%)
Associated with dose reduction	6 (15%)	8 (8%)
Associated with dose interruption	12 (30%)	29 (29%)

- AEs Gr ≥3, **64%**
- TEAE of interest: **Hepatotoxicity**
- Discontinuation **29%**
- Delayed onset of hepatotoxicity limited long-term dosing at doses higher than 1.2 mg/kg

Antitumor Activity 1 mg/kg cohort (n=38)

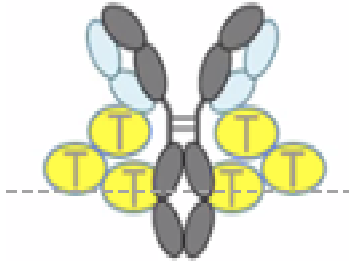


Efficacy Outcome	1 mg/kg n=40
Confirmed ORR, n (%) [95% CI]	10 (25%) [13, 41]
CBR, n (%) [95% CI]	26 (65%) [48, 79]
CBR lasting >12 weeks, n (%) [95% CI]	17 (43%) [27, 59]



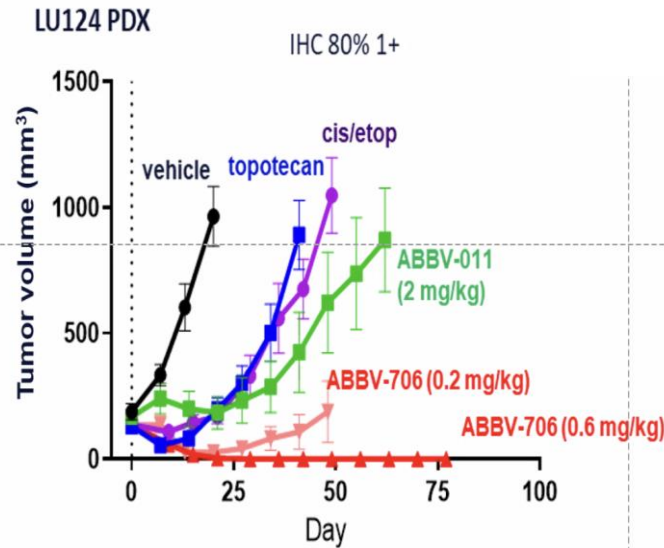


# SEZ6-targeted ADCs (ABBV-706) in SCLC and NE tumors

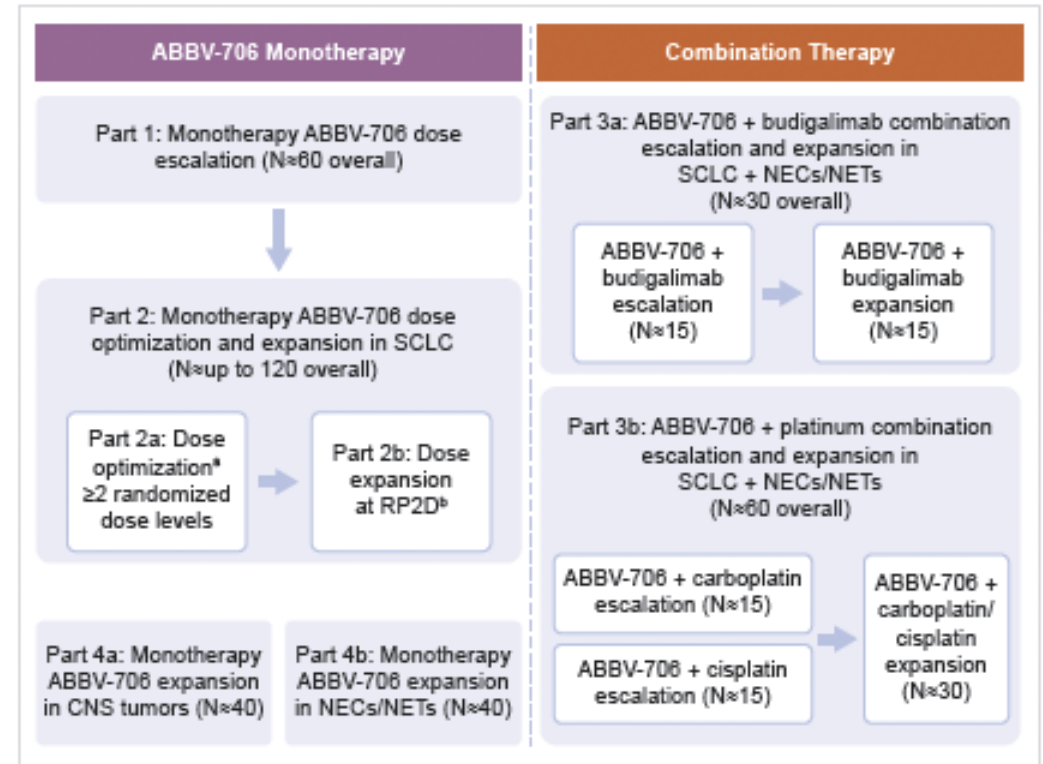


**ABBV-706**  
 TOP-1i payload

- Same payload as ABBV-400 (c-MET ADC)
- Predicted improved tolerability and therapeutic index than predecessor (ABBV-011).
- Phase 1 as monotherapy or in combination in SCLC and NE tumors ongoing



## PHASE 1



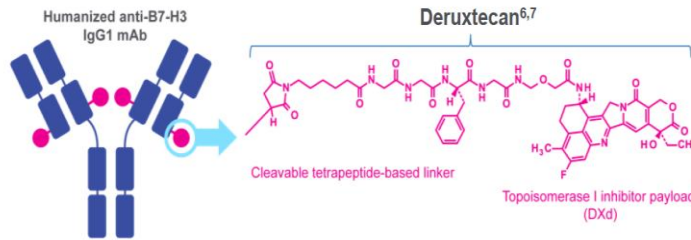
SCLC = small cell lung cancer; CNS = central nervous system; NEC = neuroendocrine carcinoma; NET = neuroendocrine tumor; RP2D = recommended Phase 2 dose  
 \*Not to exceed 40 subjects per dose level. \*Additional enrollment to achieve 40 subjects at RP2D, with a SEZ6 cutoff, if implemented, and in a specific line of therapy (e.g. second line) if desired.

NCT05599984





# FIH B7-H3-targeted ADC (Ifinatamab Deruxtecan, I-DXd, DS-7300)



**DS-7300**  
 TOPO-1 payload

- **B7-H3** is an **immune checkpoint** overexpressed in several tumors<sup>1</sup>

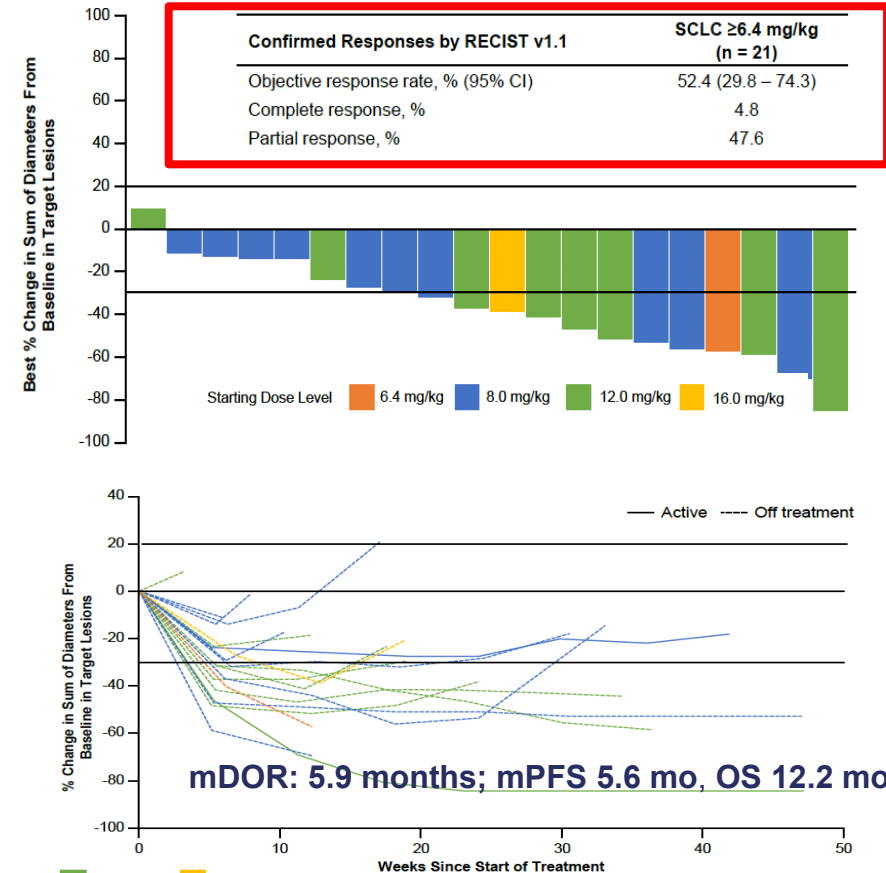
**Phase 1/2 antitumour activity in SCLC cohort (n=21, dosed at ≥6.4 mg/kg)<sup>2</sup>**

- AEs Gr ≥ 3, 36% (most common nausea)
- TEAE of interest: ILD/pneumonitis 13.6% (mostly Gr 1-2)

**Ongoing trials:**

- Phase 2, relapsed ES-SCLC (**IDeate-1**)<sup>3</sup>
- Phase 3, relapsed ES-SCLC (**IDeate-2**)
- Phase 1b/2, First-line or maintenance in combo with atezo

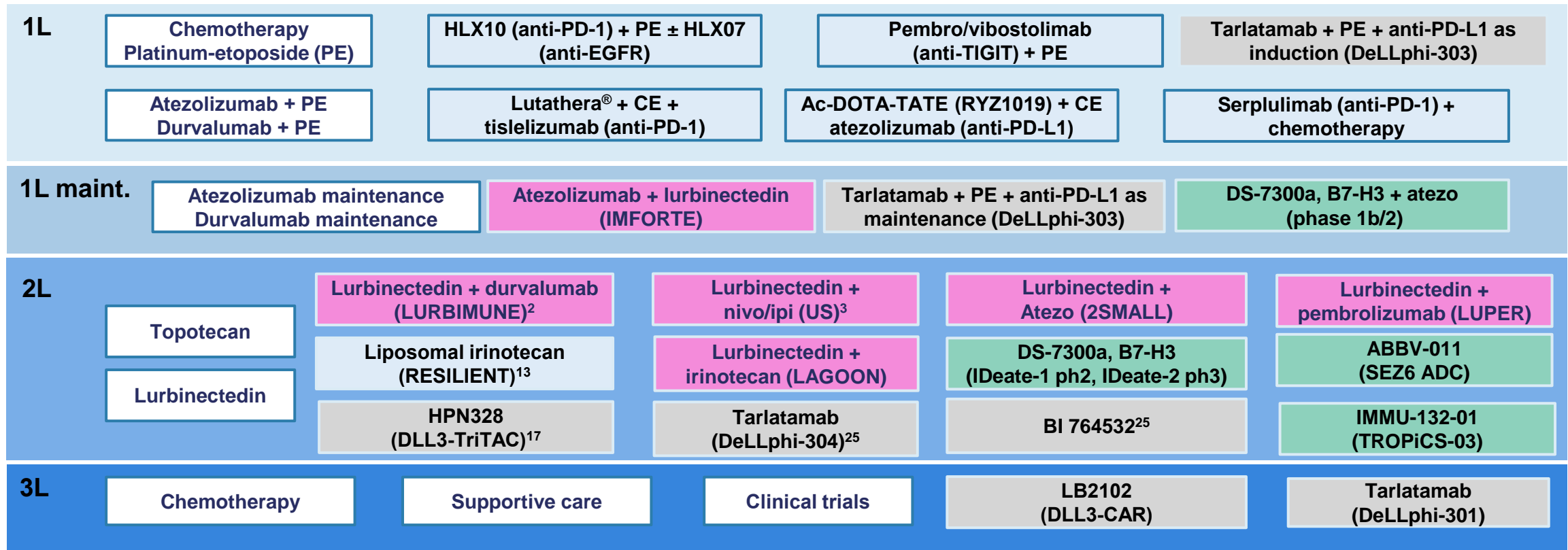
Phase 1/2 antitumour activity in SCLC cohort (n=21, dosed at ≥6.4 mg/kg)<sup>2</sup>



1. Doi T, et al. ESMO 2022; 2.- Johnson M et al, WCLC 2023.; 3.- Rudin CM et al, WCLC 2023, TIP #1561



# Emerging ES-SCLC treatment landscape



Current treatment options
  Lurbinectedin
  DLL-3 Targeted Cell Therapy
  ADCs



## Summary

- **Outcomes for patients with relapsed SCLC remain poor.**
- Second line options limited.
- New therapies under investigation with initial promising results
- Potential for novel new drugs and combinations with **lurbinectedin, DLL3 targeting-cellular therapy (BITEs) and ADCs.**



15<sup>th</sup> MADRID  
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November 2023

#15CongressGeCP

**Muchas Gracias**