starpharma

ASX Announcement

DEP® irinotecan presentation at ASCO 2024 Annual Meeting

Melbourne, Australia; 4 June 2024: Starpharma (ASX: SPL, OTCQX: SPHRY) today provides a copy of the DEP® irinotecan presentation delivered at the American Society of Clinical Oncology (ASCO) 2024 Annual Meeting in Chicago, US. The presentation was part of a rapid oral abstract session and highlighted the final results of the DEP® irinotecan Phase 1/2 clinical trial, which were reported in full last week.

More than 45,000 oncology clinicians, researchers, and pharmaceutical company representatives from around the world attended the ASCO Annual Meeting this year. Highly sought-after oral presentation slots are granted to studies that include significant breakthroughs and technologies likely to improve clinical oncology practice and patient outcomes.

The clinical investigators involved in both the DEP® irinotecan and DEP® cabazitaxel studies are excited by the clinical data for these dendrimer-based medicines. They were highly impressed with the selection of both abstracts for oral presentation at the ASCO Meeting, describing this as a significant achievement that recognises the positive clinical study findings for cancer patients.

The DEP® irinotecan ASCO Meeting abstract (#3014) has been published in the Journal of Clinical Oncology (JCO) (Volume 42, Number 16)[1]. Dr Jia (Jenny) Liu, MD PhD FRACP, Medical Oncologist and Principal Investigator of the DEP® irinotecan trial at the Kinghorn Cancer Centre, St Vincent's Hospital in Sydney, delivered the presentation overnight.

The presentation is appended.

[1] https://ascopubs.org/doi/10.1200/JCO.2024.42.16_suppl.3014

About Starpharma

Starpharma (ASX: SPL, OTCQX: SPHRY) is dedicated to helping patients with significant illnesses, such as cancer, achieve improved health outcomes and quality of life through the application of our unique dendrimer technology.

Dendrimers are precise, synthetically manufactured, nanoscale molecules. Their unique properties—including their size, structure, high degree of branching, polyvalency, and water solubility—are advantageous in medical and pharmaceutical applications.

Starpharma uses its dendrimer technology to develop novel therapeutics and to enhance the performance of existing pharmaceuticals. The Company's portfolio includes multiple clinical-stage oncology products, which utilise its Dendrimer Enhanced Product ('DEP®') drug delivery technology, as well as marketed products, including VIRALEZE™ and VivaGel® BV, which utilise SPL7013, a proprietary dendrimer with antimicrobial properties. Starpharma's DEP® drug delivery platform is being used to enhance the effectiveness of existing and novel therapies and to reduce drug-related toxicities through controlled and specified drug delivery.

For more information about Starpharma, visit www.starpharma.com or connect with Starpharma on LinkedIn.

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Disclosure
This ASX Announcement was authorised for release by Chair, Mr Rob Thomas.

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2024 ASCO® ANNUAL MEETING

Dendrimer-enhanced (DEP) SN38 (DEP irinotecan) in patients with advanced solid tumors: a Phase 1/2 trial

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[1]The Kinghorn Cancer Centre, St Vincent's Hospital, Sydney, Australia, [2]The Royal Marsden Hospital NHS Foundation Trust, London, UK, [3]Northern Centre for Cancer Care, Newcastle-Upon-Tyne Hospitals NHS Foundation Trust, Newcastle, UK, [4]The Beatson West of Scotland Cancer Centre, Glasgow, UK, [5]Cancer Centre at Guy's, Guy's and St Thomas' NHS Foundation Trust, London, UK, [6]Starpharma Pty Ltd, Abbotsford, Australia, [7]The Christie Foundation Trust, Manchester, UK

Dr Jia (Jenny) Liu, BSc(Med) Hons BMed MD PhD FRACP

Study sponsored by Starpharma Pty Ltd

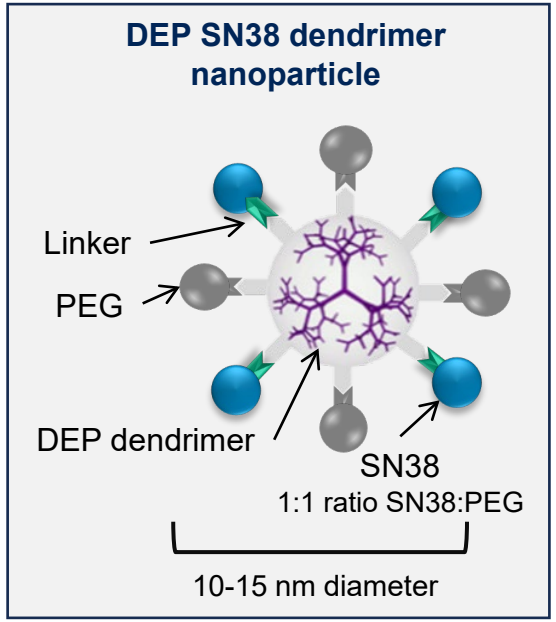
Summary

Results from DEP SN38 Phase 1/2 clinical trial in 114 patients with advanced solid tumors:

1. **Dendrimer technology has potential to deliver a range of payloads with improved safety / efficacy**

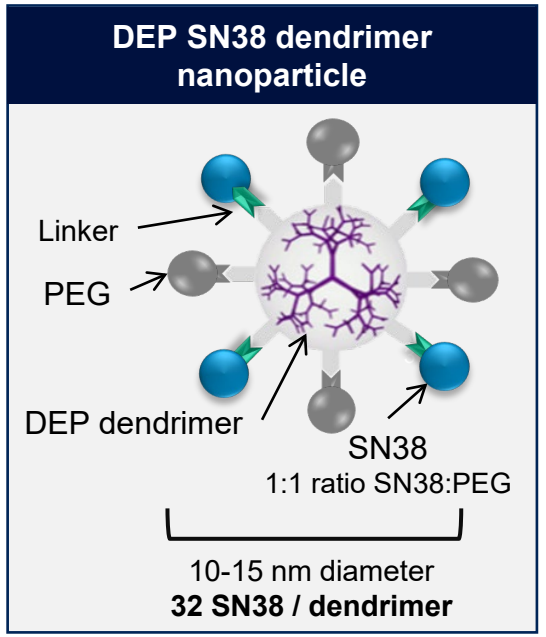
2. **DEP SN38 (12.5 mg/m^2) well-tolerated, with mostly mild/moderate gastrointestinal and no cholinergic toxicity**

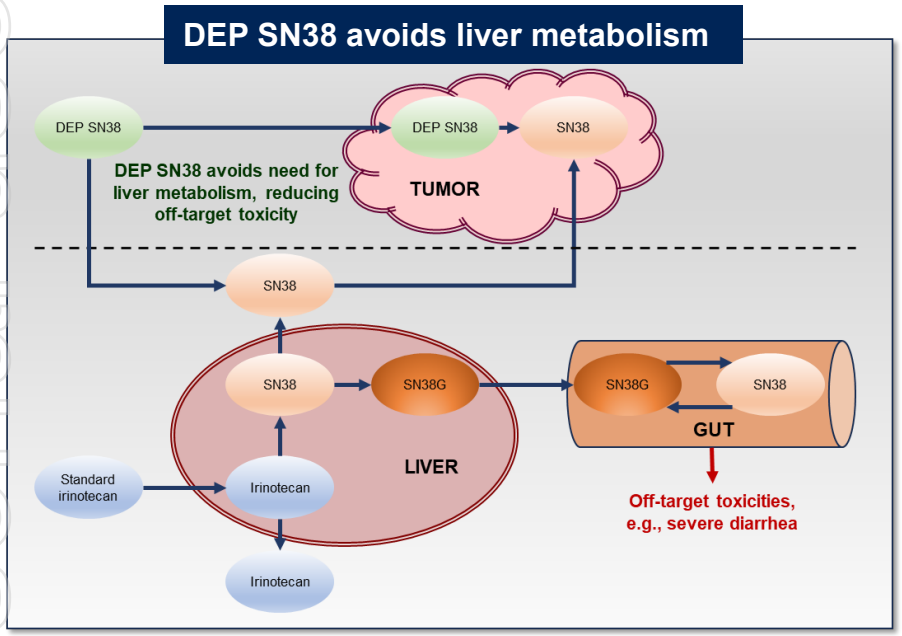
3. **Promising efficacy in irinotecan-treated CRC and platinum-resistant/refractory ovarian cancer**

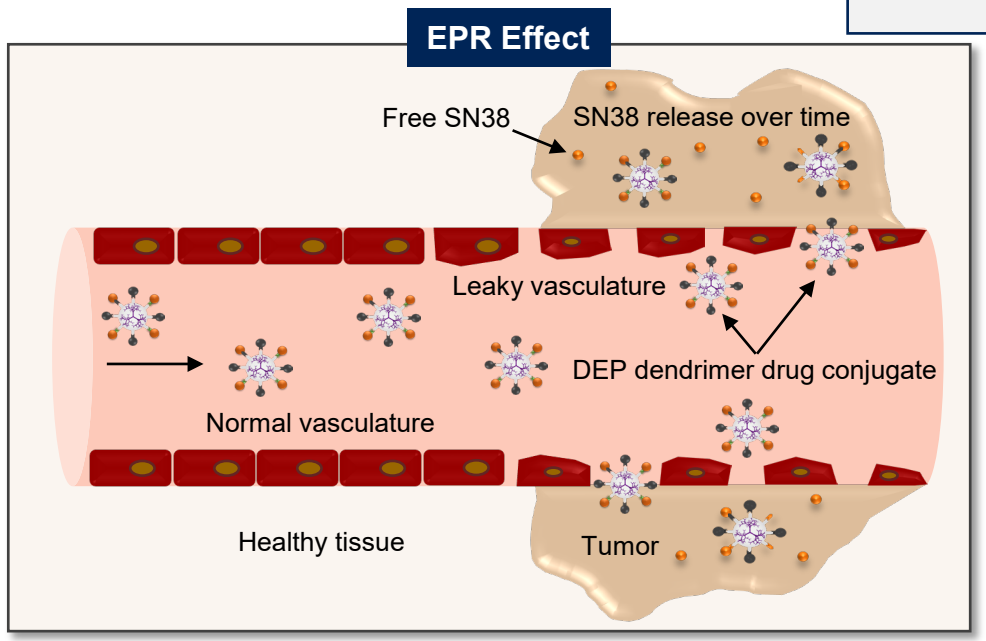


DEP SN38 Dendrimer Nanoparticle Mechanism

- 3D-poly-lysine dendrimers act as scaffold for delivery of a range of payloads, including cytotoxics[1]
- DEP SN38 does not require liver metabolism for conversion into active SN38 metabolite → reducing off-target toxicity
- DEP SN38 retained in tumor microenvironment via enhanced permeability and retention (EPR[1,2]) → improved efficacy







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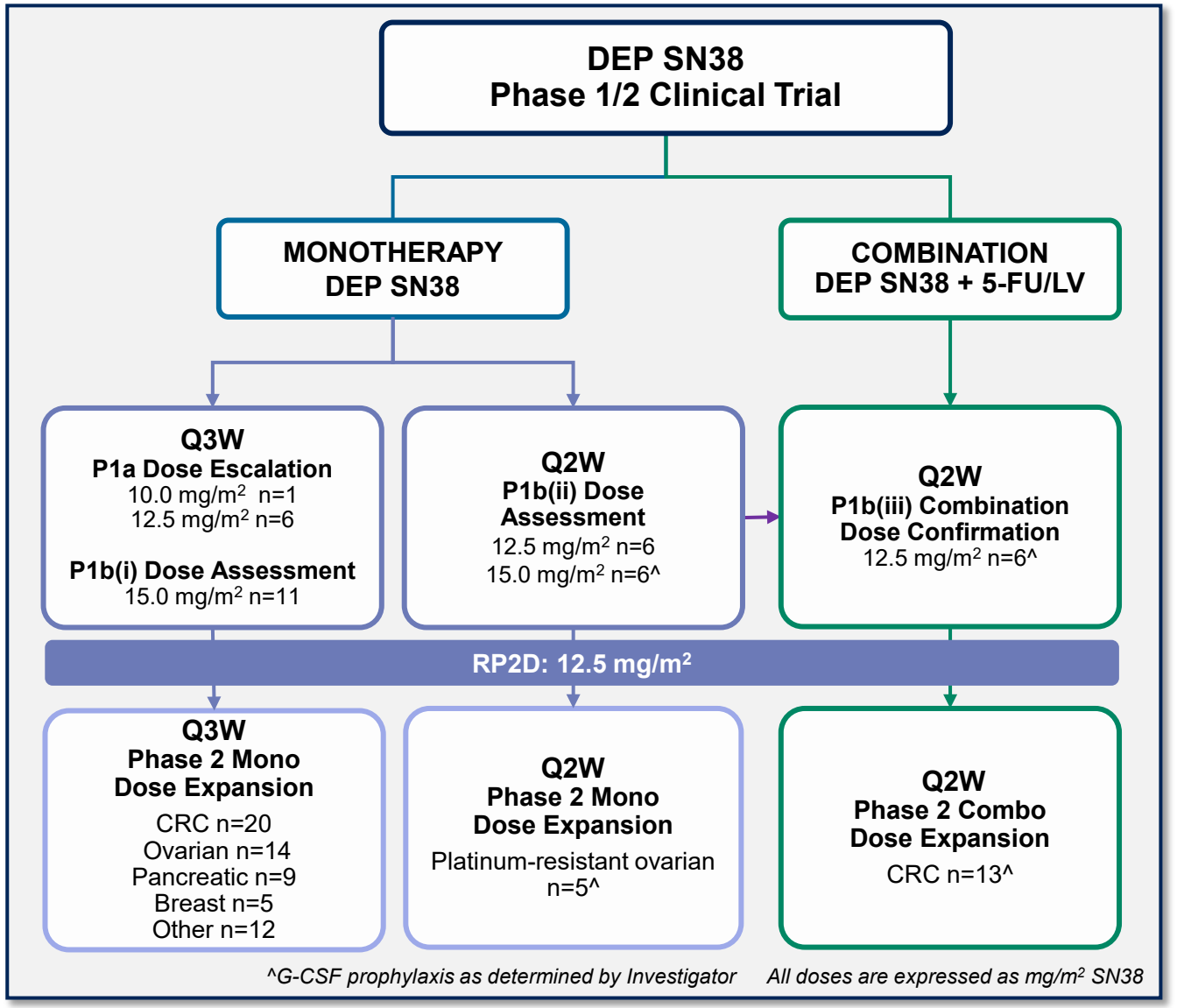
1. Kaminskas et al, *Nanomedicine* 2011, 6(6):1063-1084
2. Iyer et al, DrugDiscToday 2006, 11(17-18):812-818

Study Design

- Multicenter first-in-human open-label trial[1,2]
- DEP SN38 administered IV q3wkly or q2wkly infusion without corticosteroid/atropine pre-medication
- Dose expansion cohorts: colorectal, platinum-resistant ovarian
- Primary objective: safety profile and RP2D
- Secondary objectives: preliminary anti-tumor activity, tolerability, PK



1. EudraCT: 2019-001318-40
2. Liu et al, *Mol Cancer Ther* 2023, 22(12_Supplement):B039

Patient Characteristics – All Treated Patients

BASELINE CHARACTERISTICS		COLORECTAL	OVARIAN	PANCREATIC	BREAST	OTHER[1]	TOTAL
Subjects enrolled (n, %)		55 (48%)	23 (20%)	15 (13%)	8 (7%)	13 (11%)	114 (100%)
Subjects ongoing (n, %)		4 (7%)	2 (9%)	0 (0%)	0 (0%)	0 (0%)	6 (5%)
Age (years)	Median (range)	59 (31-78)	64 (42-74)	65 (48-76)	53 (42-66)	60 (38-73)	61 (31-78)
Sex (n, %)	Male	24 (44%)	0	8 (53%)	0	9 (69%)	41 (36%)
	Female	31 (56%)	23 (100%)	7 (47%)	8 (100%)	4 (31%)	73 (64%)
ECOG PS	0	23 (42%)	6 (26%)	6 (40%)	2 (25%)	-	40 (35%)
	1	32 (58%)	17 (74%)	9 (60%)	6 (75%)	2	74 (65%)
Stage at diagnosis	III	2 (4%)	4 (17%)	0 (0%)	0 (0%)	2 (15%)	8 (7%)
	IV	53 (96%)	19 (83%)	15 (100%)	8 (100%)	11 (85%)	106 (93%)
Prior systemic therapy (n, %)	Irinotecan	54 (98%)	0 (0%)	11 (73%)	0 (0%)	3 (23%)	68 (60%)
	Platinum	29 (53%)	23 (100%)	9 (60%)	0 (0%)	12 (92%)	73 (64%)
	Taxanes	0 (0%)	23 (100%)	2 (13%)	7 (88%)	9 (69%)	41 (36%)
Prior lines of therapy	Median (range)	4 (2-9)	6 (3 to 9)	2 (2 to 5)	7 (3 to 12)	3 (1 to 6)	4 (1 to 12)

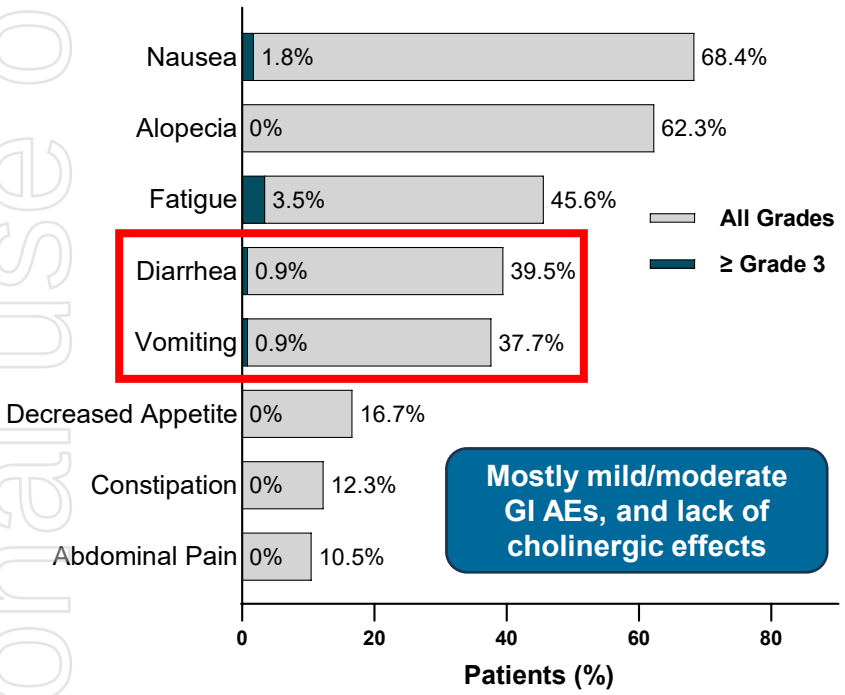
[1]*Other cancer types included lung, upper gastrointestinal, and kidney.*

DEP SN38 Safety and Tolerability

DEP SN38 is well-tolerated with a notable lack of severe GI toxicity and mostly mild/moderate AEs

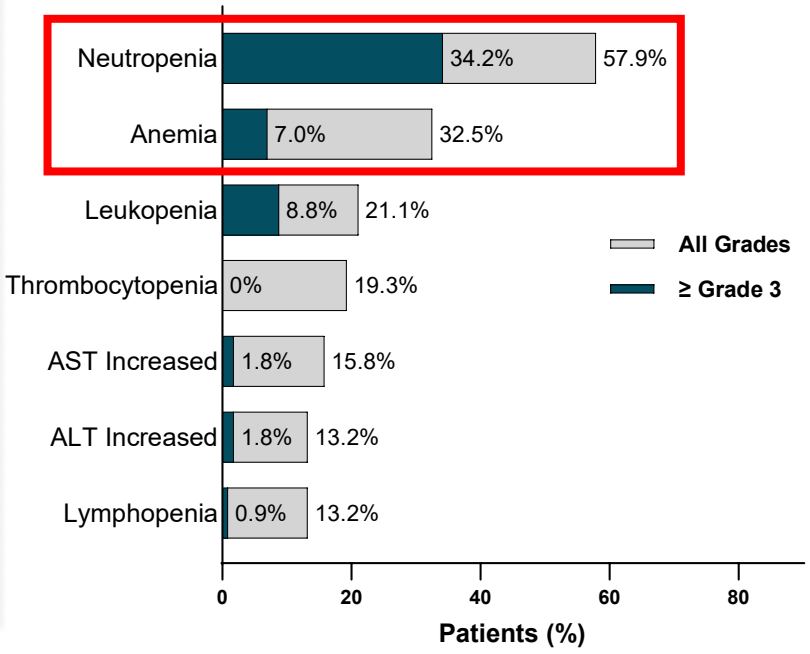
Treatment-related AEs in ≥10% patients (N=114)

Non-hematological AEs



Mostly mild/moderate GI AEs, and lack of cholinergic effects

Hematological / Lab AEs



DEP SN38 cycles administered: median 4 (1 – 38 to date)

RP2D 12.5 mg/m² for Q2W and Q3W

Dose Level / Regimen	DLT
12.5 mg/m² Q3W	G4 neutropenia >7 days
15 mg/m² Q2W	G3 febrile neutropenia
15 mg/m² Q2W	G3 neutropenic colitis

Treatment-related dose modifications (N=114)

Delay, n (%)	27 (23.7%)
Reduction, n (%)	12 (10.5%)
Discontinuation, n (%)	4 (3.6%)

DEP SN38 GI toxicity profile improved vs known toxicity of irinotecan

TRAE	DEP SN38 (Q2W, Q3W)	Irinotecan† (Q3W)
Diarrhea ≥ Grade 3	0.9%	~20%
Vomiting ≥ Grade 3	0.9%	~10%
Nausea ≥ Grade 3	1.8%	~10%
Cholinergic Syndrome	0%	47%
	N=114	N=765

† https://www.medicines.org.uk/emc/product/6506- UK SmPC April 2022

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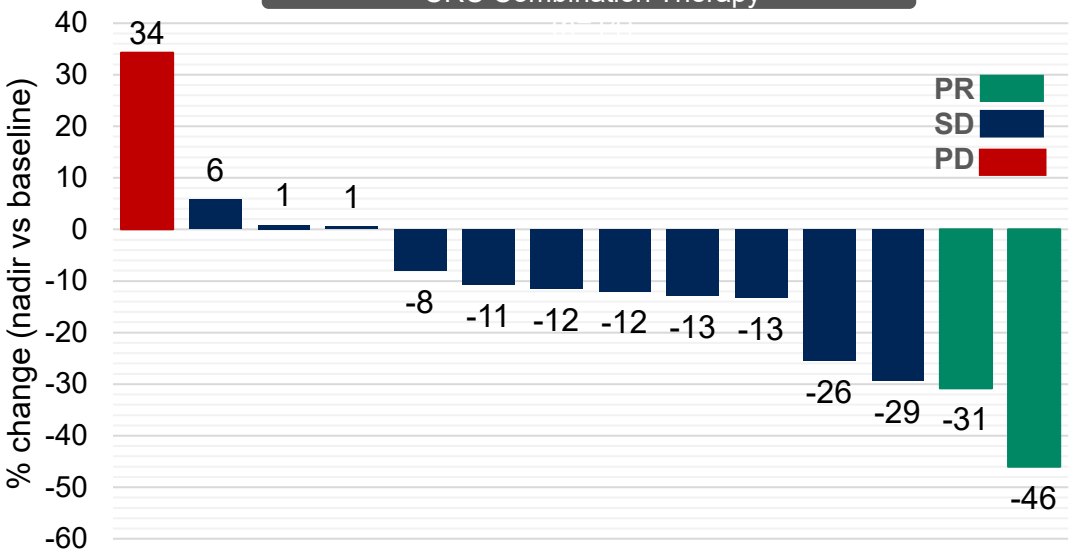
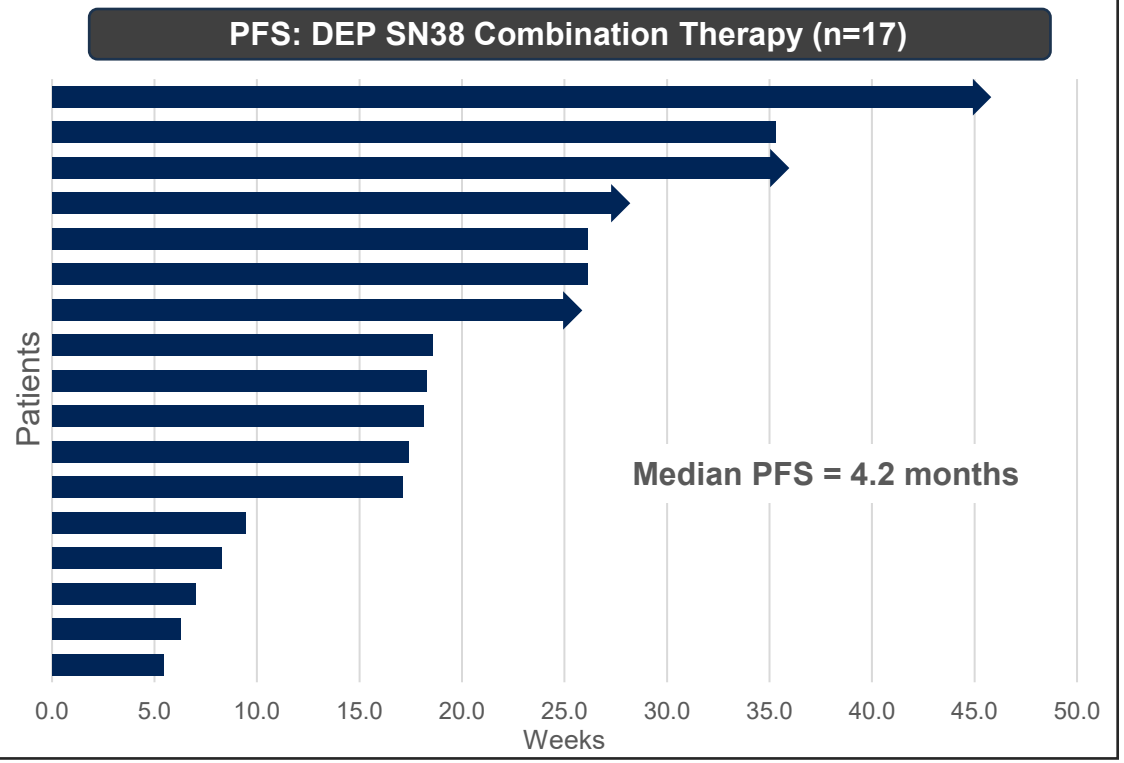
CRC Efficacy Overview

Efficacy Response		
DEP SN38 Monotherapy Q3W/Q2W (N=38)	**Median number of prior lines (range)**	**4 (2-9)**
	RECIST 1.1 Evaluable (n)	**31**
	DCR (n)	48% (15)
	ORR (n)	0% (0)
	Duration of response	up to 72 weeks
	Median PFS [95% CI]	2.1 months [9.9-18.4]
DEP SN38 + 5-FU/LV Combination Q2W (N=17)	**Median number of prior lines (range)**	**3 (2-6)**
	RECIST 1.1 Evaluable (n)	**14**
	DCR (n)	86% (12)
	ORR (n)	14% (2)
	Duration of response	up to 45 weeks*
	Median PFS [95% CI]	4.2 months [14.5-26.2]

** 4 patients ongoing treatment*

Evaluable: patients who received ≥ 1 dose DEP SN38 and a CT scan at ≥ ~week 8 after first dose.
DCR: : Disease Control Rate (CR+PR+SD/RECIST Evaluable).





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Ovarian Efficacy Overview

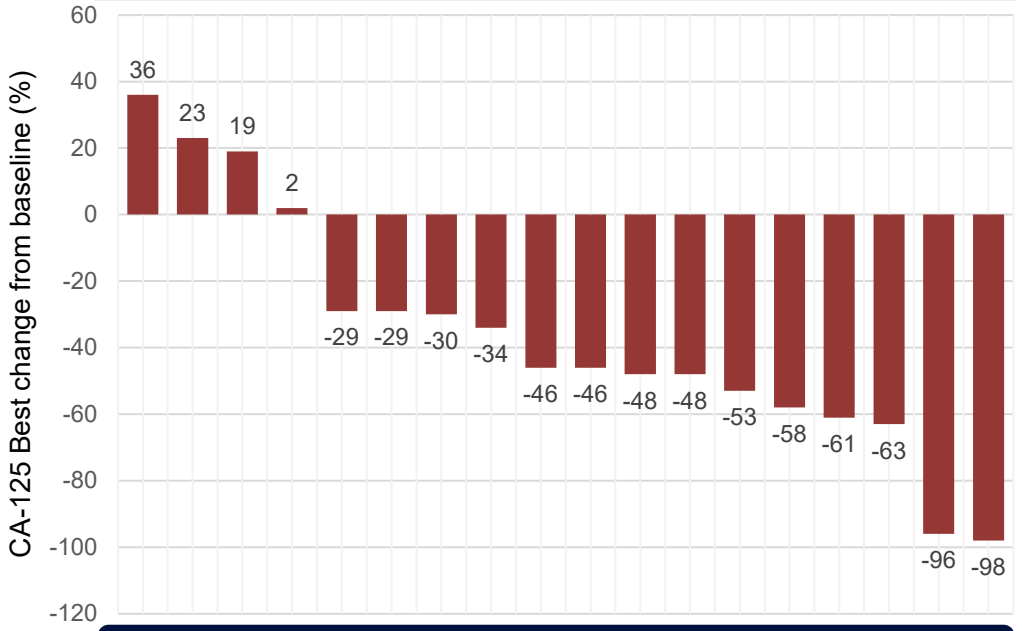
Efficacy Response		Total (n=23)	Q2W (n=8)	Q3W (n=15)
DEP SN38 Monotherapy	Median prior lines (range)	6 (3-9)	6 (4-8)	6 (3-9)
	RECIST 1.1 Evaluable (n)	18	7	11
	ORR % (n)	22% (4†)	43% (3†)	9% (1)
	DCR % (n)	72% (13)	100% (7)	55% (6)
	Duration of response	up to 62 weeks*	up to 62 weeks*	up to 33 weeks
	Median PFS [95% CI]	3.2 months [12.6 – 29.5]	9.3 months [14.4 – 56.3]	1.9 months [7.3 – 17.7]

** 2 patients – ongoing treatment*

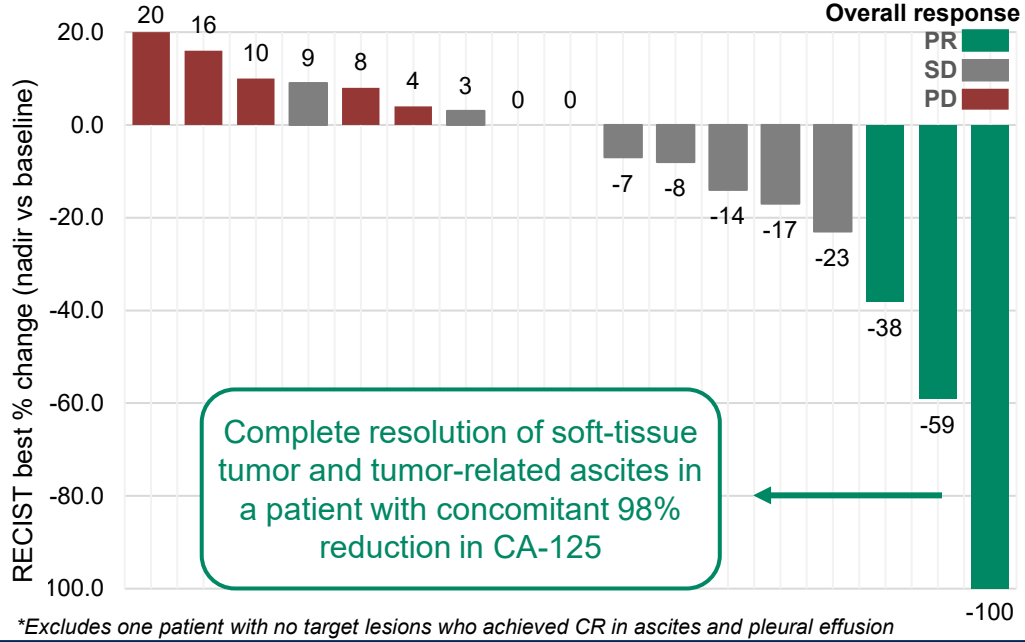
Evaluable Patients: received ≥ 1 dose DEP SN38 and a CT scan at ≥ ~week 8 after first dose.
DCR: Disease Control Rate (CR+PR+SD/RECIST Evaluable).

† Includes a patient with no target lesions had complete resolution in tumor ascites and pleural effusion.

CA-125 biomarker reduced in >75% patients - up to 98% ↓



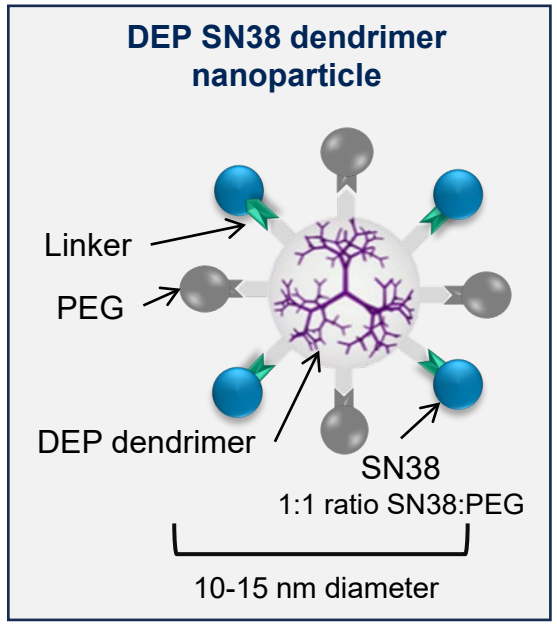
Best % Change in Sum of Target Lesion Size (n=17*)

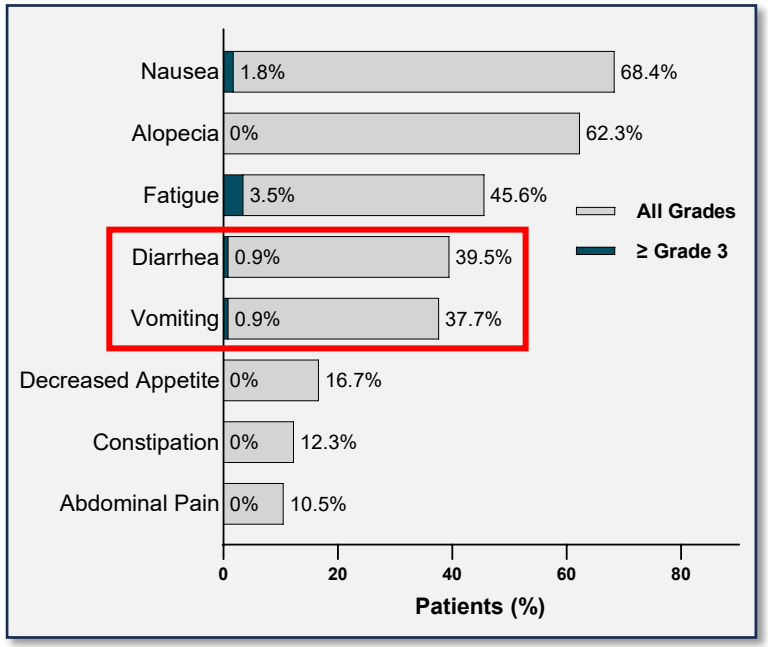


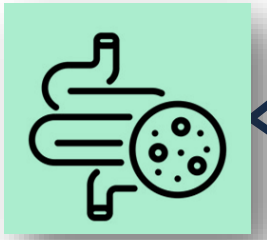
**Excludes one patient with no target lesions who achieved CR in ascites and pleural effusion*

Key Points

Dendrimer nanoparticles offer a better way to deliver chemotherapy, focusing the treatment on cancer cells and sparing healthy tissue, helping to improve effectiveness and reduce side effects







(n=55)

Monotherapy
DCR 48%

Combo + 5FU/LV
DCR 86%

(n=23)

Q2W ORR 43%
Q2W+Q3W DCR 72%

CA125 ↓ 75%

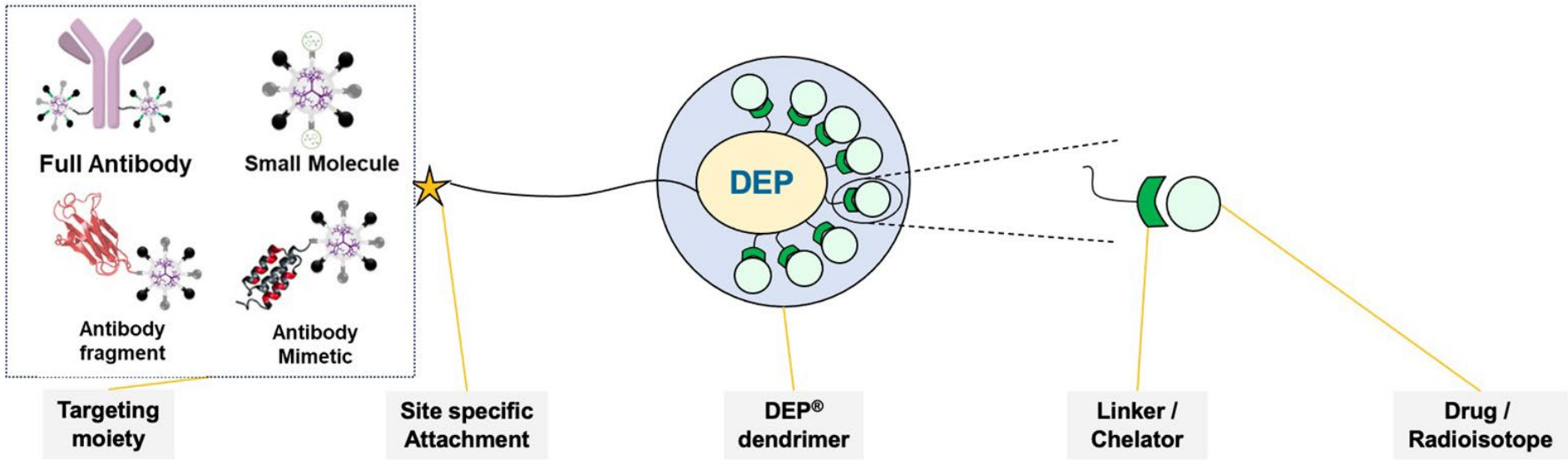
Dendrimer technology has potential to deliver a range of payloads with improved safety / efficacy

DEP SN38 (12.5 mg/m^2) IV Q2W / Q3W well-tolerated, with mostly mild/moderate GI AEs, no cholinergic toxicity

Promising efficacy in irinotecan-treated CRC and platinum-resistant/refractory ovarian cancer

Future Directions

- Confirm efficacy of DEP SN 38 vs irinotecan in randomized trials
- Explore synergy of DEP SN38 in combination with checkpoint / PARP inhibition
- Dendrimer platform to improve efficacy and safety profile of different payloads



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