Pemvidutide Treatment Results in Concurrent Reductions in Multiple Non-Invasive Tests for Hepatic Inflammation and Fibrosis: 48-Week Responder Analyses of the IMPACT Phase 2b Trial in Metabolic Dysfunction-Associated Steatohepatitis

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Disclosures

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Disclaimer: This presentation discusses pemvidutide, an investigational product candidate that has not been approved by the FDA or any other regulatory authority. Its safety and efficacy have not been established. The statements about pemvidutide are based on current expectations and are subject to risks and uncertainties that could cause actual results to differ materially. For additional information regarding these risks and uncertainties, please refer to the Company's filings with the U.S. Securities and Exchange Commission, including the most recent Form 10-K and Form 10-Q. This study was sponsored by Altimmune, Inc.

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MASH Overview



Disease: MASH is a progressive liver disease characterized by hepatic fat accumulation, inflammation, and fibrosis,[a] often comorbid with obesity, type 2 diabetes, and cardiovascular disease[b]



Prevalence: It affects an estimated ~5% (16-17 million) of the U.S. population and is projected to reach 7.9% (23.2 million) by 2050[c,d]

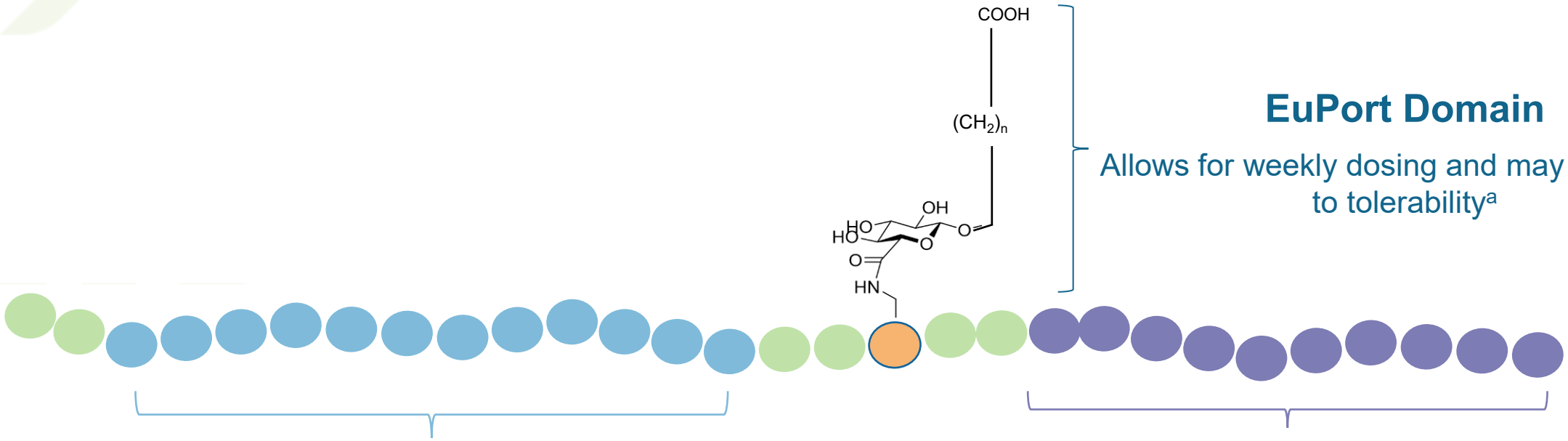


Burden: MASH is a leading cause of liver transplantation in the U.S and advanced liver disease globally[b]

[a]TD Cowen Global Research. Feb 2026. [b]Alkhouri et al. *Am J Manag Care*. 2024;30(9 Suppl):S159-S174. [c]American Liver Foundation. [d]Estes et al. *JAMA Netw Open*. 2025;8(1):e2451234.

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Pemvidutide is a balanced 1:1 glucagon/GLP-1 dual receptor agonist



EuPort Domain

Allows for weekly dosing and may contribute to tolerability[a]

Glucagon specificity

Provides direct liver effects, including liver fat reduction, leading to reductions in inflammation and fibrosis

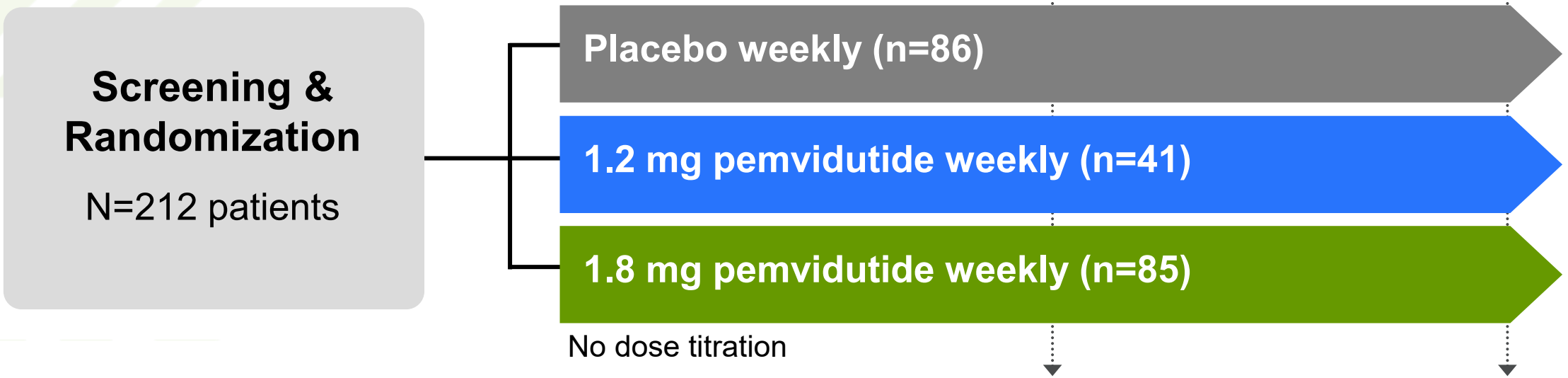
GLP-1 specificity

Mediates metabolic effects such as appetite suppression, decreased alcohol cravings and consumption, and drives weight loss

[a]Nestor et al. *Sci Rep*. 2022 Apr 23;12(1):6666. FDA: US Food and Drug Administration; GLP-1: glucagon-like peptide 1.

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IMPACT Phase 2b MASH Trial Design



KEY ELIGIBILITY

- Biopsy-confirmed MASH (F2/F3)
- LFC ≥ 8%
- LSM ≥ 8.5 kPa
- BMI ≥ 27.0 kg/m^2
- HbA1c ≤ 9.5%

KEY ENDPOINTS

	Week 24	Week 48
Primary	• Histologic MASH resolution or fibrosis improvement[a]	
Secondary	• Histologic MASH resolution and fibrosis improvement • NITs (e.g., LFC, ALT, ELF, LSM) • Weight loss	• NITs • Weight loss

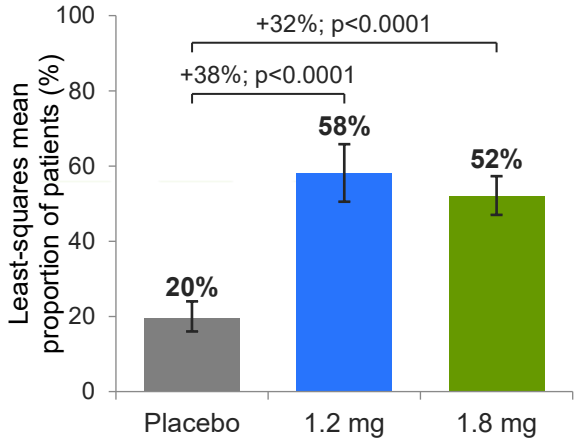
[a] MASH resolution without worsening of fibrosis, or fibrosis improvement without worsening of MASH. ALT: alanine aminotransferase; BMI: body mass index; ELF: enhanced liver fibrosis; HbA1c: hemoglobin A1c; LFC: liver fat content; LSM: liver stiffness measurement; MASH: metabolic dysfunction-associated steatohepatitis; NIT: non-invasive test

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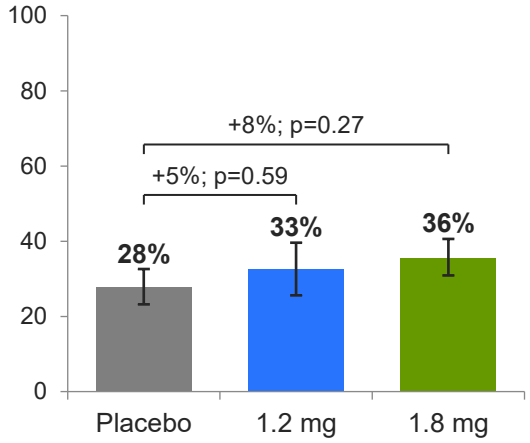
Pemvidutide demonstrated significant improvements in histology and individual NITs of hepatic inflammation and fibrosis within 24 weeks[a]

HISTOLOGY

MASH resolution
without worsening of fibrosis



Fibrosis improvement
without worsening of MASH



NON-INVASIVE TESTS

Responders, n/N (%)	Placebo n=86	Pemvidutide 1.2 mg, n=41	Pemvidutide 1.8 mg, n=85
Liver fat content ≥30% decrease	15/76 (20%)	32/39 (82%) p<0.0001	66/79 (84%) p<0.0001
Alanine aminotransferase ≥17 IU/L decrease	17/74 (23%)	22/39 (56%) p=0.0003	52/78 (67%) p<0.0001
Enhanced Liver Fibrosis score ≥0.5 decrease	14/74 (19%)	18/39 (46%) p=0.0021	39/76 (51%) p<0.0001
Liver stiffness measurement ≥25% decrease	16/76 (21%)	26/37 (70%) p<0.0001	33/78 (42%) p=0.0049

While individual NITs may be indicators of therapeutic effect, composite analyses using **multiple, overlapping NITs may provide a more rigorous assessment of therapeutic improvement** as they increase diagnostic accuracy and stringency

[a]Noureddin et al. *Lancet*; 2025; 406 (10520):2644-2655. MASH: metabolic dysfunction-associated steatohepatitis
MASH: metabolic dysfunction-associated steatohepatitis; NIT: non-invasive test

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Aim

To evaluate composite NIT responses after 48 weeks of pemvidutide treatment in the IMPACT Phase 2b trial using thresholds associated with **MASH and/or fibrosis improvement**

LIVER FAT	LIVER INJURY	FIBROSIS	
			
≥30-50% reduction in LFC[a]	**≥17 IU/L** reduction in ALT[b]	**≥0.5** reduction in ELF score[c]	**≥30%** reduction in LSM[d]

[a]Alkhouri et al. *J Hepatology* 2025;82:438-445. [b]Loomba et al. *Gastroenterol* 2019;156:88-95. [c]Sanyal et al. *Hepatology* 2022;75:1235-1246. [d]Petta et al. *Clin Gastroenterol Hepatol* 2021;19:806-815.e5
ALT: alanine aminotransferase; ELF: enhanced liver fibrosis; LFC: liver fat content; LSM: liver stiffness measurement; MASH: metabolic dysfunction-associated steatohepatitis; NIT: non-invasive test

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Definitions for Composite NIT Responses

Responses defined by concurrent improvements across liver fat, liver injury, and/or fibrosis:

MASH Improvement

- ≥30% LFC reduction[a]
- ≥17 IU/L ALT reduction[b]
- ≥30% LSM reduction[c]

Fibrosis Improvement

- ≥0.5 ELF reduction[d]
- ≥30% LSM reduction[c]

Disease Remission

- ≥50% LFC reduction[a]
- ≥0.5 ELF reduction[d]
- ≥30% LSM reduction[c]

Composite endpoints required concurrent responses across two or more NITs

[a]Alkhouri et al. *J Hepatology* 2025;82:438-445. [b]Loomba et al. *Gastroenterol* 2019;156:88-95. [c]Petta et al. *Clin Gastroenterol Hepatol* 2021;19:806-815.e5. [d]Sanyal et al. *Hepatology* 2022;75:1235-1246. ALT: alanine aminotransferase; ELF: enhanced liver fibrosis; LFC: liver fat content; LSM: liver stiffness measurement; MASH: metabolic dysfunction-associated steatohepatitis; NIT: non-invasive test

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Demographic and baseline clinical characteristics were similar across groups

Characteristic	Placebo n=86	Pemvidutide 1.2 mg n=41	Pemvidutide 1.8 mg n=85
Age, years, mean (SD)	52.5 (12.2)	55.2 (13.0)	53.4 (12.4)
Female sex, n (%)	48 (55.8)	25 (61.0)	50 (58.8)
Body weight, kg, mean (SD)	109.7 (28.0)	110.7 (26.3)	107.7 (21.3)
BMI, kg/m^2, mean (SD)	38.3 (8.4)	39.2 (8.4)	38.7 (6.9)
Type 2 diabetes, n (%)	36 (41.9)	18 (43.9)	36 (42.4)
F3 fibrosis, n (%)	40 (46.5)	17 (41.5)	39 (45.9)
ELF, mean (SD)	9.7 (0.8)	10.0 (0.8)	9.9 (1.0)
LSM, kPa, mean (SD)	12.5 (4.4)	12.3 (3.6)	12.8 (4.4)
Liver fat content, %, mean (SD)	19.6 (6.4)	20.0 (7.1)	19.0 (6.8)
ALT, IU/L, mean (SD)	56.6 (32.7)	67.6 (54.6)	67.6 (43.0)

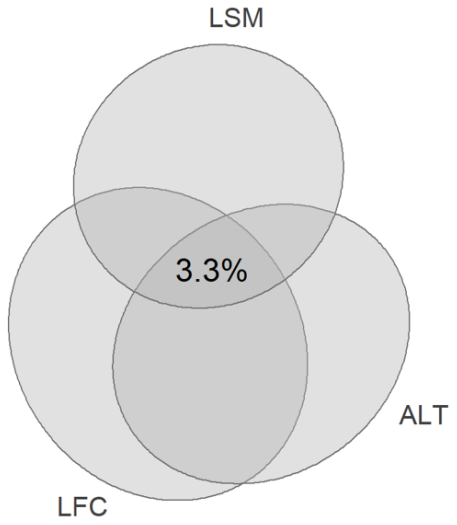
ALT: alanine aminotransferase; BMI: body mass index; ELF: enhanced liver fibrosis; LSM: liver stiffness measurement; SD: standard deviation

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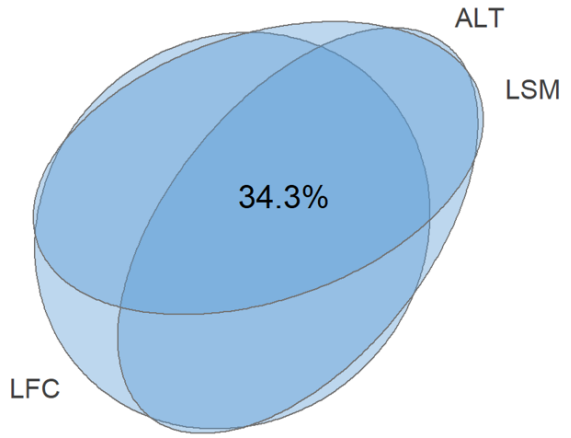
Composite responses for markers associated with MASH improvement were significantly higher with pemvidutide

- Composite NITs for markers associated with MASH improvement:
  - ≥30% LFC reduction
  - ≥17 IU/L ALT reduction
  - ≥30% LSM reduction
- The proportion of patients with concurrent responses across NITs associated with MASH improvement was more than 10-fold higher with pemvidutide than placebo

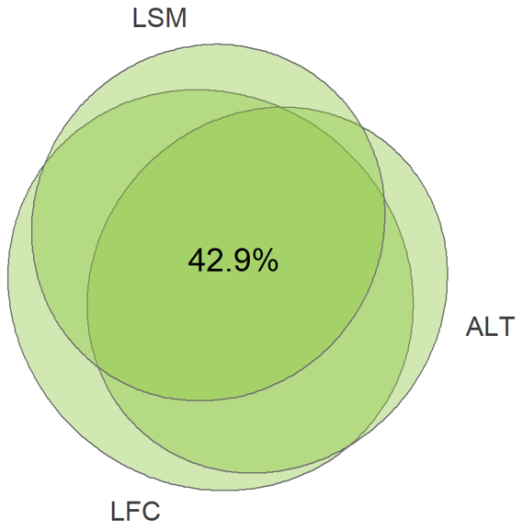
MASH Improvement Composites NITs at Week 48



Placebo (n=60)



Pemvidutide 1.2 mg (n=35)
OR (95% CI)[a]
16.81 (3.17, 89.17), p=0.0001



Pemvidutide 1.8 mg (n=70)
OR (95% CI)[a]
17.40 (4.32, 70.04), p<0.0001

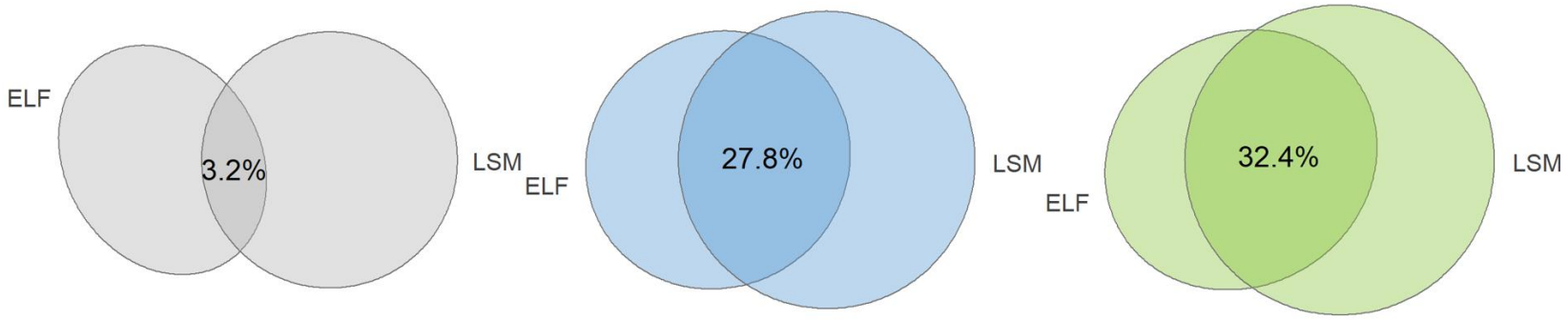
[a] OR, CI, and p-value were calculated using the CMH test stratified by type 2 diabetes status and fibrosis stage. Sample sizes reflect the number of participants with evaluable data.
ALT: alanine aminotransferase; CI: confidence interval; CMH: Cochran-Mantel-Haenszel; LFC: liver fat content; LSM: liver stiffness measurement; MASH: metabolic dysfunction-associated steatohepatitis; NIT: non-invasive test; OR: odds ratio.

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Composite response rates for NITs of fibrosis improvement were significantly higher with pemvidutide

- Composite NITs for fibrosis improvement:
  - ≥0.5 ELF reduction
  - ≥30% LSM reduction
- Response rates across multiple NITs of fibrosis improvement were 9- to 10-fold higher with pemvidutide versus placebo

Fibrosis Improvement Composite NITs at Week 48



Placebo (n=63)

Pemvidutide 1.2 mg (n=36)
OR (95% CI)[a]
13.98 (2.60, 75.15), p=0.0003

Pemvidutide 1.8 mg (n=68)
OR (95% CI)[a]
14.69 (3.24, 66.72), p<0.0001

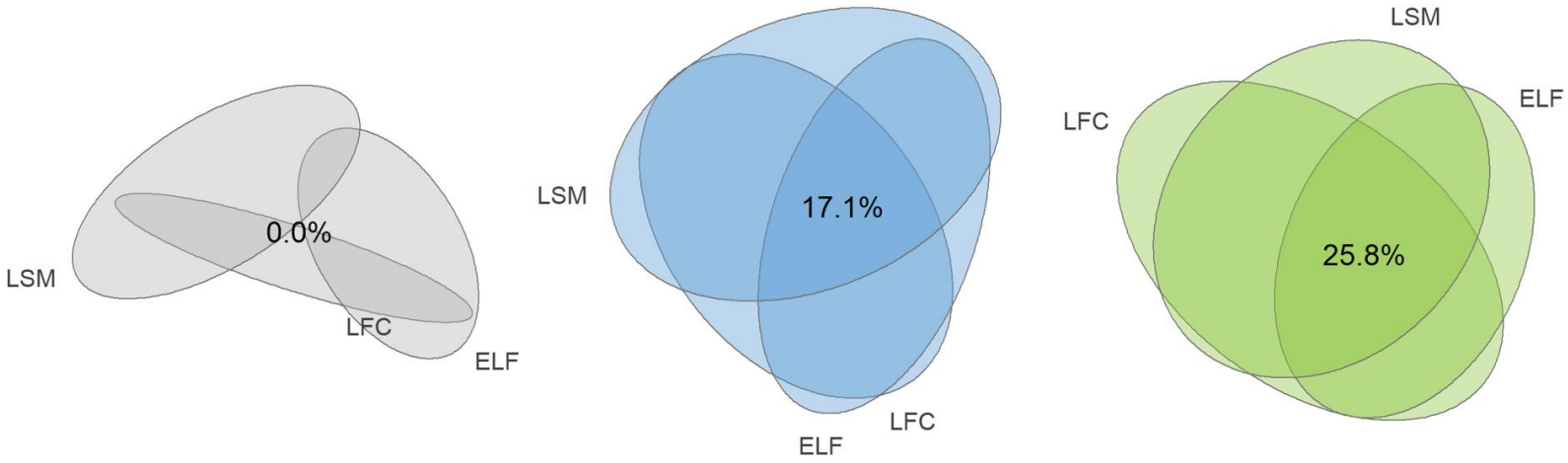
[a] OR, CI, and p-value were calculated using the CMH test stratified by type 2 diabetes status and fibrosis stage. Sample sizes reflect the number of participants with evaluable data.
CI: confidence interval; CMH: Cochran-Mantel-Haenszel; ELF: enhanced liver fibrosis; LSM: liver stiffness measurement; NIT: non-invasive test; OR: odds ratio.

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Pemvidutide achieved significantly higher composite NIT response rates for disease remission

- Disease remission composite NITs:
  - ≥50% LFC reduction
  - ≥0.5 ELF reduction
  - ≥30% LSM reduction
- Both pemvidutide doses yielded significantly greater composite responses for disease remission than placebo

Disease Remission Composite NITs at Week 48



Placebo (n=59)

Pemvidutide 1.2 mg (n=35)
p=0.0018[a]

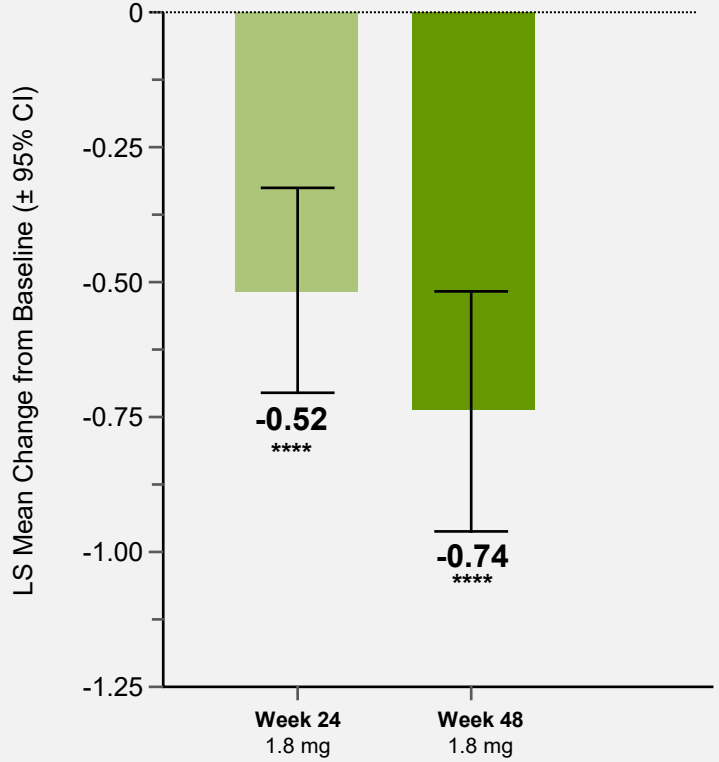
Pemvidutide 1.8 mg (n=66)
p<0.0001[a]

[a] OR and CI not estimable (no placebo responders); p-values were calculated using the CMH test stratified by type 2 diabetes status and fibrosis stage. Sample sizes reflect the number of participants with evaluable data. CMH: Cochran-Mantel-Haenszel; ELF: enhanced liver fibrosis; LFC: liver fat content; LSM: liver stiffness measurement; MASH: metabolic dysfunction-associated steatohepatitis; NIT: non-invasive test.

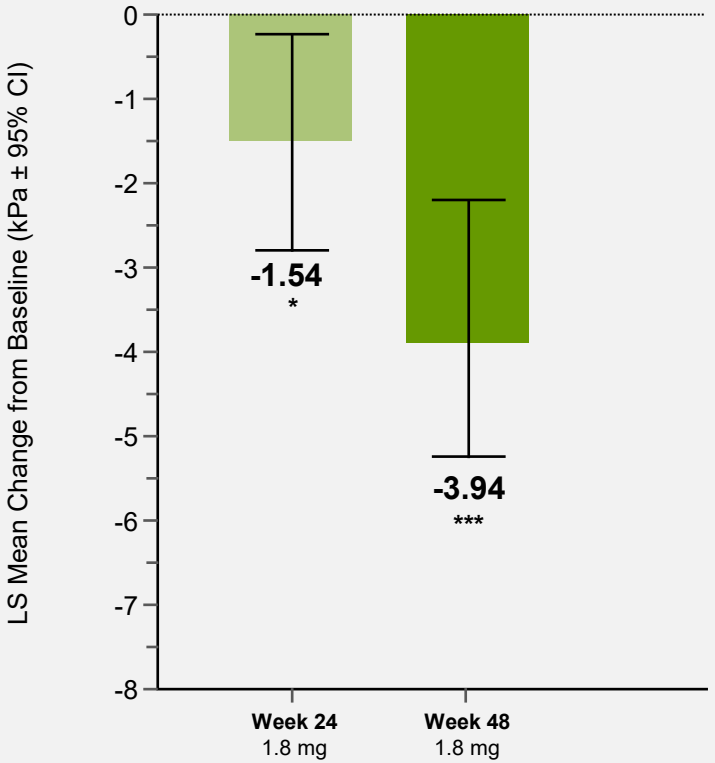
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Improvements in Primary Non-invasive Markers of Fibrosis from 24 to 48 Weeks with 1.8 mg

Enhanced Liver Fibrosis (ELF)
Placebo-Adjusted



Liver Stiffness Measurement (LSM)
Placebo-Adjusted



*$p < 0.05$ | ***$p < 0.001$ | ****$p < 0.0001$ vs. placebo (ANCOVA)

Progressive 24-to-48-week improvements in primary markers of fibrosis (LSM and ELF) with 1.8 mg, supporting Phase 3 development

ELF: enhanced liver fibrosis; LSM: liver stiffness measurement

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Summary

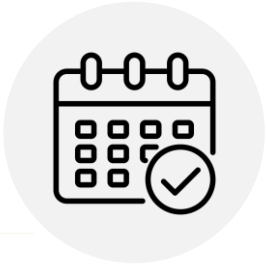
- Response rates were significantly higher with pemvidutide than placebo across all composite NIT endpoints
- 1.8 mg pemvidutide consistently achieved numerically higher response rates compared with 1.2 mg pemvidutide and placebo
- 48-week NIT findings align with trends in histologic MASH resolution and fibrosis improvement observed at 24 weeks[a]
- Collectively, these findings suggest that the balanced 1:1 glucagon/GLP-1 ratio of pemvidutide rapidly reduces liver fat, yielding potent downstream effects on hepatic inflammation and fibrosis

[a] Noureddin et al. *Lancet*; 2025;406 (10520):2644-2655. MASH: metabolic dysfunction-associated steatohepatitis; NIT: non-invasive test

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Future Directions

- The ongoing **PERFORMA** phase 3, global, randomized, placebo-controlled, double-blind, parallel-group trial evaluates pemvidutide in MASH, including:



Longer-term histologic and safety outcomes

- biopsy and safety evaluation at 52 weeks
- event-driven follow-up through ~60 months



Biopsy-confirmed and NIT-confirmed F2/F3 MASH cohorts

- Findings from PERFORMA are expected to expand the clinical evidence base for pemvidutide with longitudinal data across a broad MASH population, ultimately supporting regulatory approval

MASH: metabolic dysfunction-associated steatohepatitis; NIT: non-invasive test

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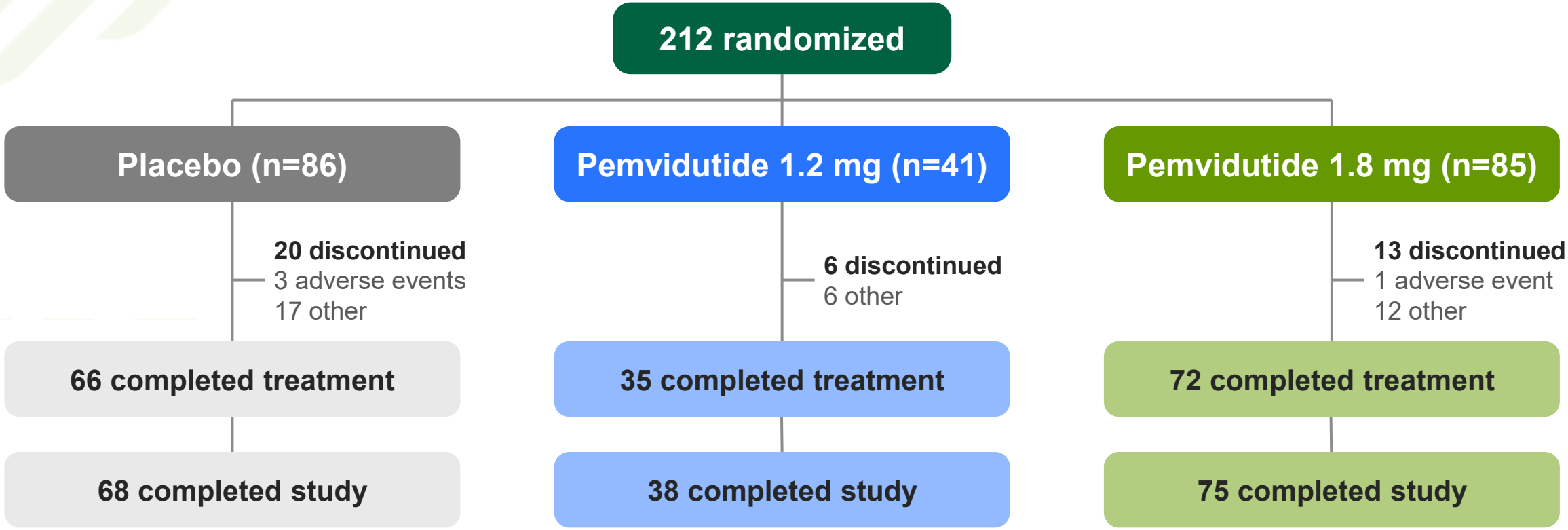
Thank you!
Questions?

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Appendix

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IMPACT Phase 2b MASH Trial Patient Disposition



85% of patients receiving pemvidutide completed treatment vs. 77% receiving placebo

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