



## Correlation between AI-based digital pathology and non-invasive tests (NITs) Baseline data from the FASCINATE-2 phase 2b clinical study of denifanstat in patients with F2/F3 NASH

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# DISCLOSURES

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**DISCLOSURES:** I disclose the following financial relationship(s) with a commercial interest:

**Stephen A. Harrison, M.D reports:**

**Principal Investigator of Grant Research:** Akero Therapeutics, Inc., Axcella Health, Inc., Cirius Therapeutics, Inc., Cymabay Therapeutics, Inc., Enyo Pharma S.A, Galectin Therapeutics, Inc., Genfit Corp, Gilead Sciences, Inc., Hepion Pharmaceuticals, Inc., Hightide Therapeutics, Inc., Intercept Pharmaceuticals, Inc., Madrigal Pharmaceuticals, Inc., Metacrine Inc., NGM Biopharmaceuticals Inc., Northsea Therapeutics , Novartis Pharmaceuticals Corp, Novo Nordisk, Poxel, Sagimet Biosciences, Viking Therapeutics, Inc.

**Consultant:** Akero Therapeutics, Inc., Alentis Therapeutics AG, Alimentiv, Inc., Altimmune, Axcella Health, Inc., Boston Pharmaceuticals, B Riley FBR Inc., BVF Partners LP, Corcept Therapeutics, Inc, Cymabay Therapeutics, Inc., Echosens North America Inc., Enyo Pharma S.A, Foresite Labs, LLC, Galectin Therapeutics, Inc., Genfit Corp, GNS, Hepion Pharmaceuticals Inc., Hightide Therapeutics, Inc., HistoIndex PTE LTD, Intercept Pharmaceuticals, Inc., Ionis, Kowa Research Institute, Inc., Madrigal Pharmaceuticals, Inc., Medpace, Inc. Metacrine Inc., NeuroBo, NGM Biopharmaceuticals INC., Northsea Therapeutics B.V, Novo Nordisk, Nutrasource, Perspectum Diagnostics, Piper Sandler, Poxel, Sagimet Biosciences, Sonic Incytes Medical Corp, Terns Inc., Viking Therapeutics, Inc.

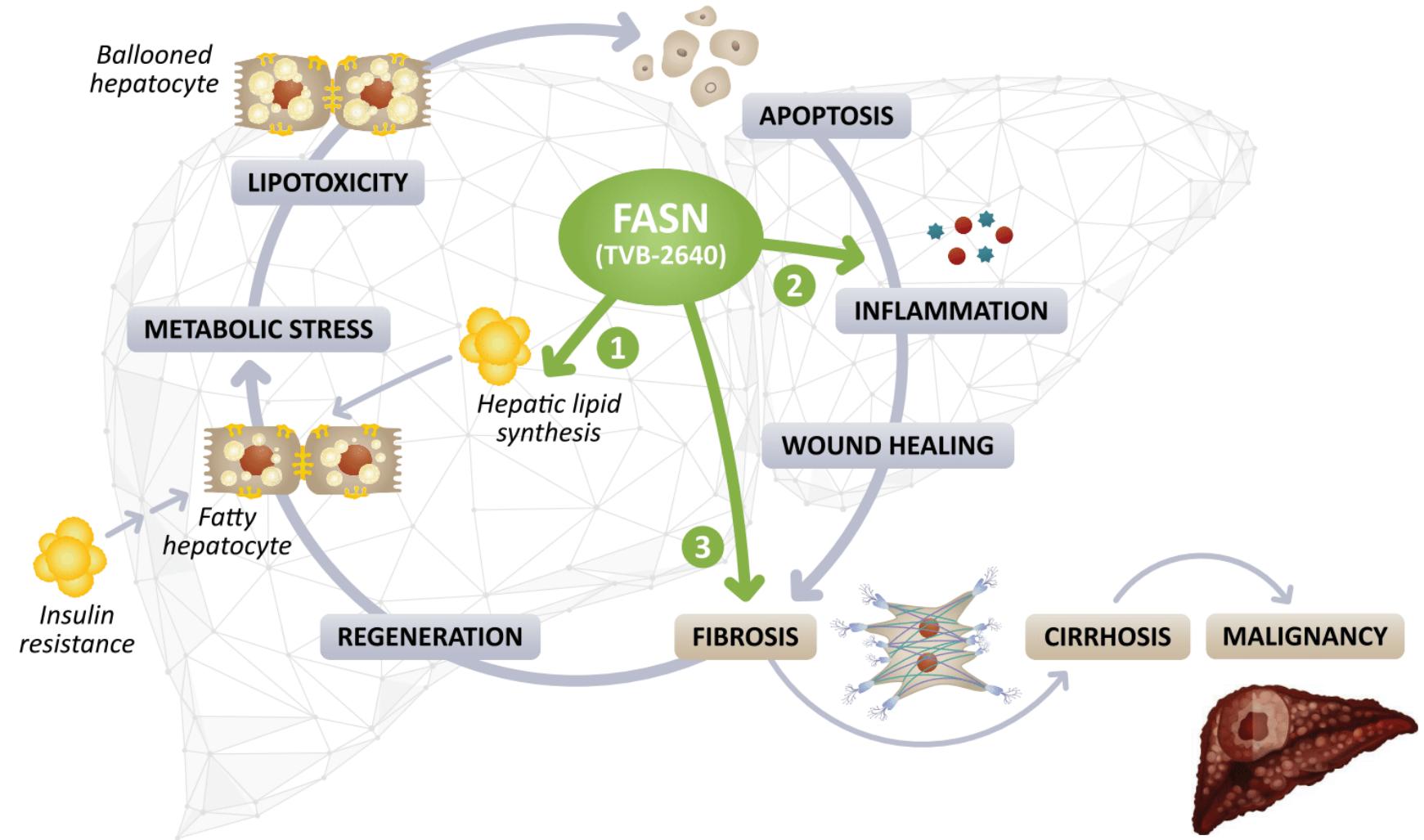
**Advisory Board / Panel:** Akero Therapeutics, Inc., Altimmune, Arrowhead, Axcella Health, Inc., Chronwell, Cymabay Therapeutics, Inc., Echosens North America Inc., Foresite Labs, LLC, Galectin Therapeutics, Inc., Genfit Corp, Gilead Sciences, Inc, Hepion Pharmaceuticals, Inc., Hightide Therapeutics, Inc., HistoIndex PTE LTD, Intercept Pharmaceuticals, Inc., Madrigal Pharmaceuticals, Inc., Medpace Inc., Metacrine Inc., NGM Biopharmaceuticals., Northsea Therapeutics B.V, Novartis Pharmaceuticals, Novo Nordisk, PathAI, Poxel, Sagimet Biosciences, Sonic Incytes Medical Corp, Terns Inc., Theratechnologies

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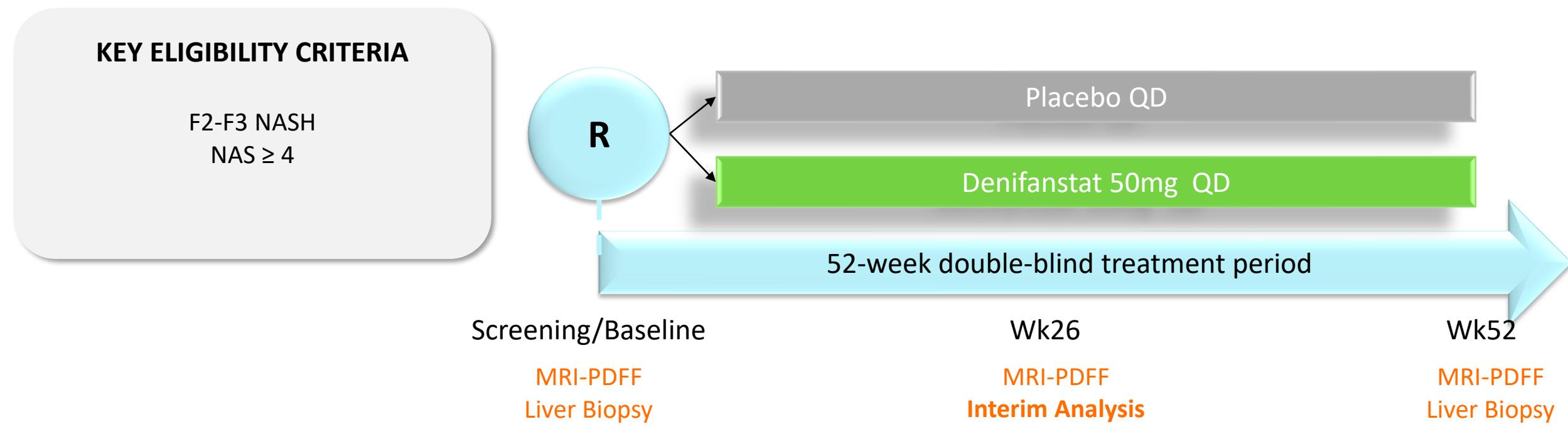
# Denifanstat: Mechanism of Action

Independent mechanisms designed to:

- 1 Block steatosis
- 2 Reduce inflammation
- 3 Blunt fibrosis



# FASCINATE-2 – Phase 2b - Study Design



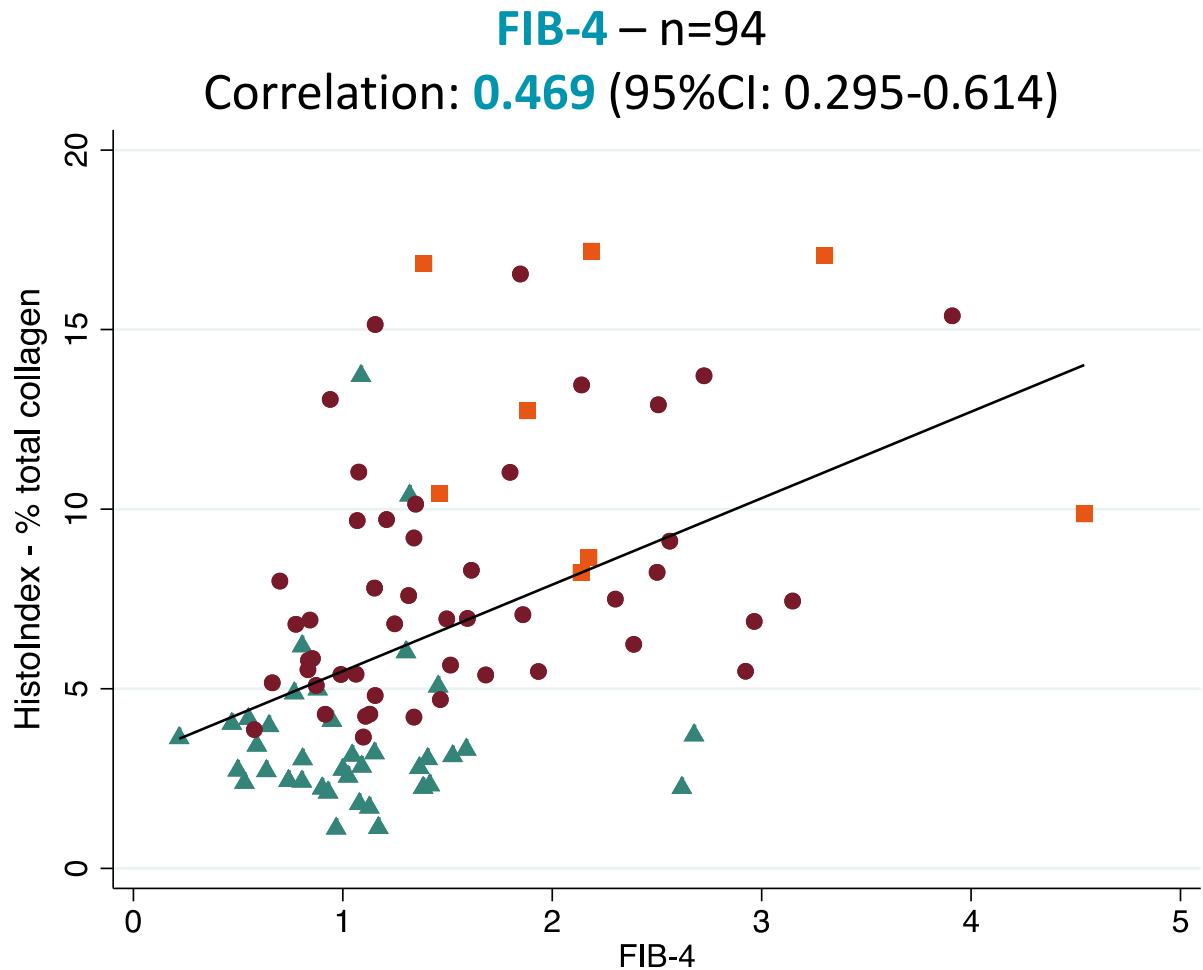
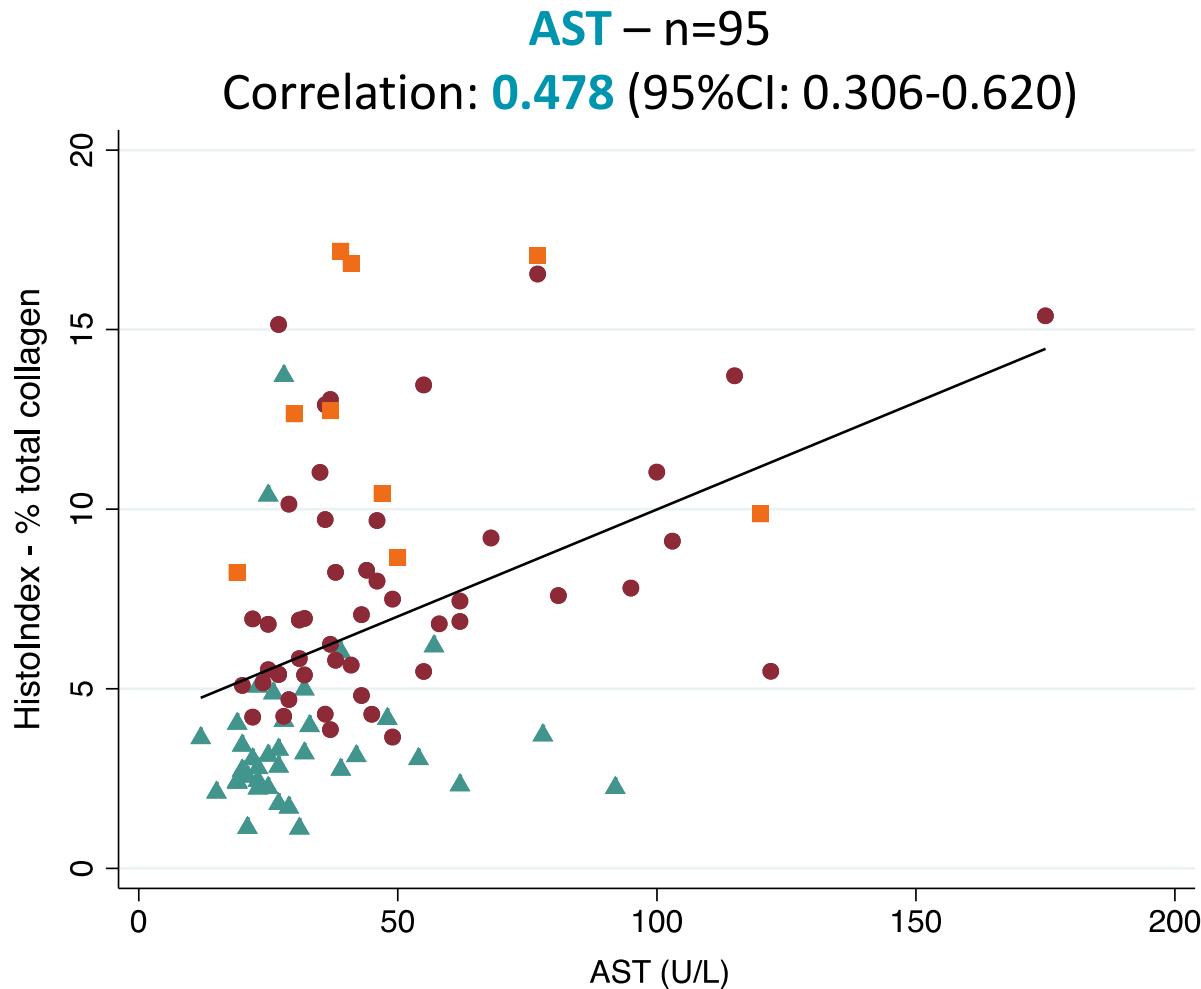
- **Post-Hoc Exploratory Analysis**

- Random selection of a subset of patients from screening (F0 to F4)
- Correlation of screening/baseline non-invasive data with AI digital pathology using the HistolIndex platform parameters

# Baseline Characteristics

	Screen Fail Patients F0-F1 (n=38)	Randomized patients F2-F3 (n=48)	Screen Fail Patients F4 (n=9)
<b>Age, year</b>	56.0 (13.0) / n=38	60.5 (15.5) / n=48	67.0 (13.5) / n=8
<b>AST, U/L</b>	26.5 (12.0) / n=38	38.0 (26.5) / n=48	41.0 (13.0) / n=9
<b>ALT, U/L</b>	30.5 (24.0) / n=38	50.0 (33) / n=48	44.0 (33.0) / n=9
<b>FibroScan LSM, kPa</b>	9.6 (3.0) / n=23	9.4 (5.2) / n=47	23.1 (14.2) / n=7
<b>FAST</b>	0.4 (0.4) / n=22	0.6 (0.3) / n=43	0.7 (0.4) / n=6
<b>AGILE3+</b>	0.5 (0.2) / n=14	0.6 (0.5) / n=46	0.97 (0.0) / n=2
<b>ELF</b>	-	9.9 (1.0) / n=45	-
<b>Liver Fat Content, % (MRI-PDFF)</b>	-	17.1 (10.0) / n=48	-
<b>Fibrosis Stage – Central Reading</b>	F0: 50% / F1:50%	F2: 48% / F3:52%	F4: 100%
<b>qFibrosis</b>	1.7 (0.3) / n=38	2.3 (0.9) / n=48	3.5 (1.3) / n=9
<b>% Collagen</b>	3.0 (1.6) / n=38	6.9 (4.0) / n=48	12.7 (7.0) / n=9
<b>qSteatosis</b>	1.1 (2.0) / n=38	2.2 (0.8) / n=48	1.6 (1.2) / n=9
<b>% Steatosis</b>	16.3 (25.0) / n=38	33.7 (18.4) / n=48	19.9 (12.7) / n=8

# Non-Invasive Markers of Fibrosis

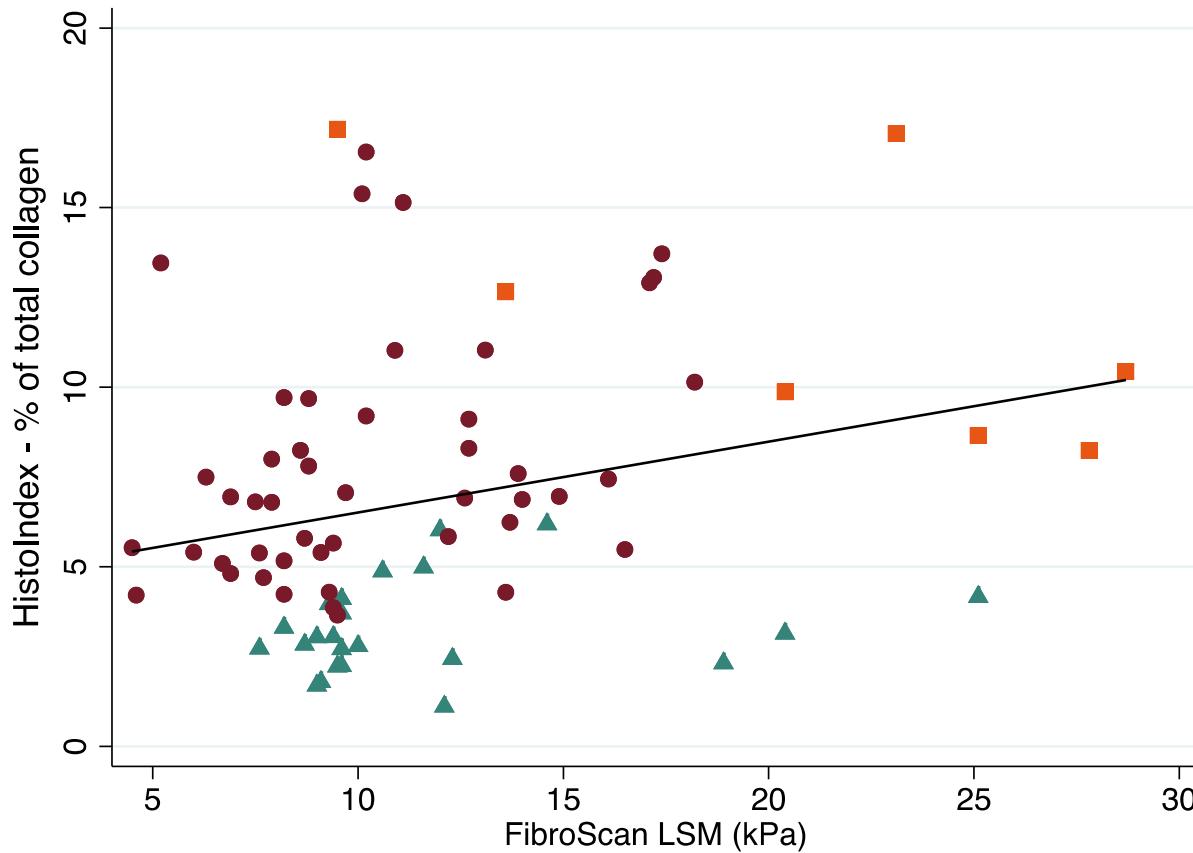


Fibrosis Stage (NASH-CRN)  
 ▲ F0-F1     ● F2-F3     ■ F4

# Non-Invasive Markers of Fibrosis

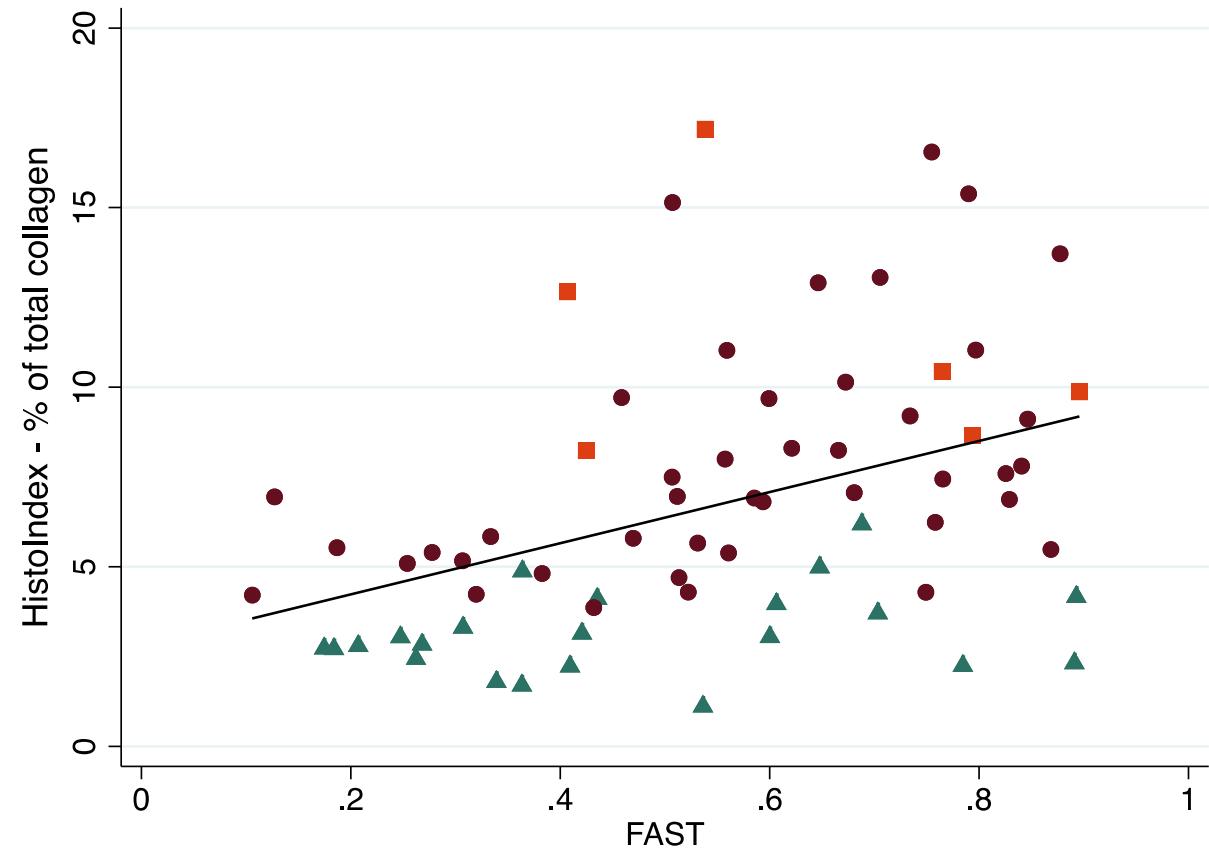
**LSM – n=77**

Correlation: **0.276** (95%CI: 0.055-0.471)



**FAST – n=71**

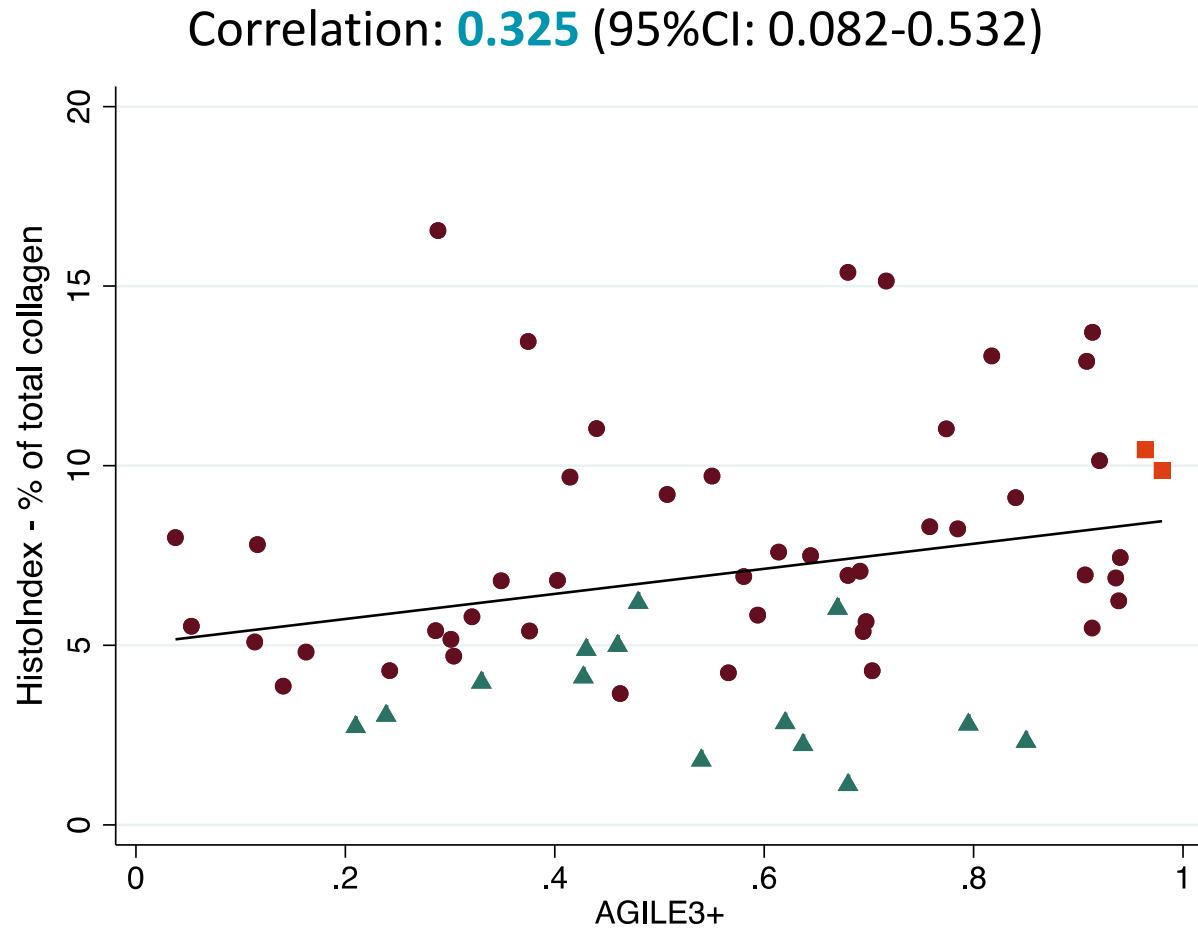
Correlation: **0.449** (95%CI: 0.241-0.617)



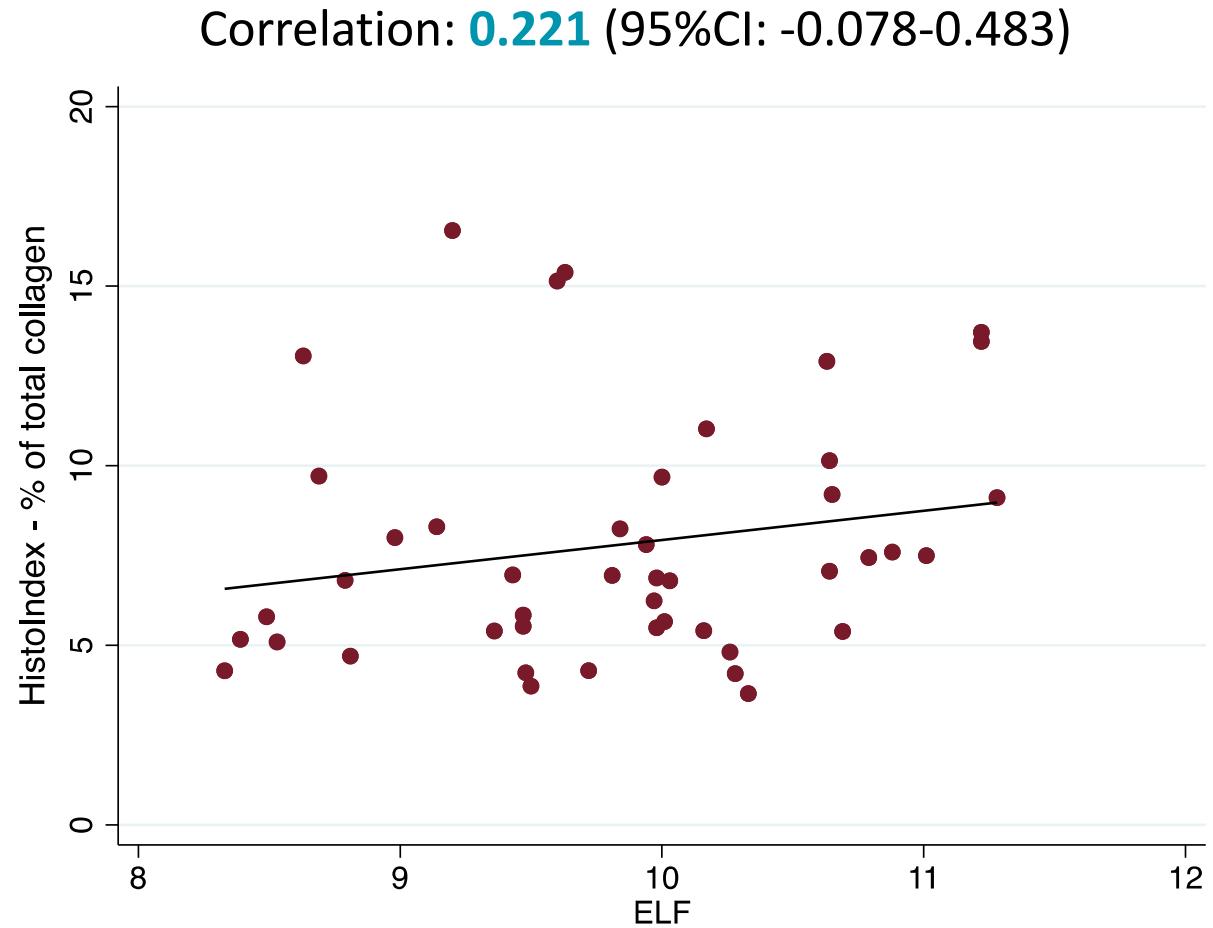
Fibrosis Stage (NASH-CRN)  
 ▲ F0-F1   ● F2-F3   ■ F4

# Non-Invasive Markers of Fibrosis

**AGILE3+ – n=62**



**ELF – n=45**

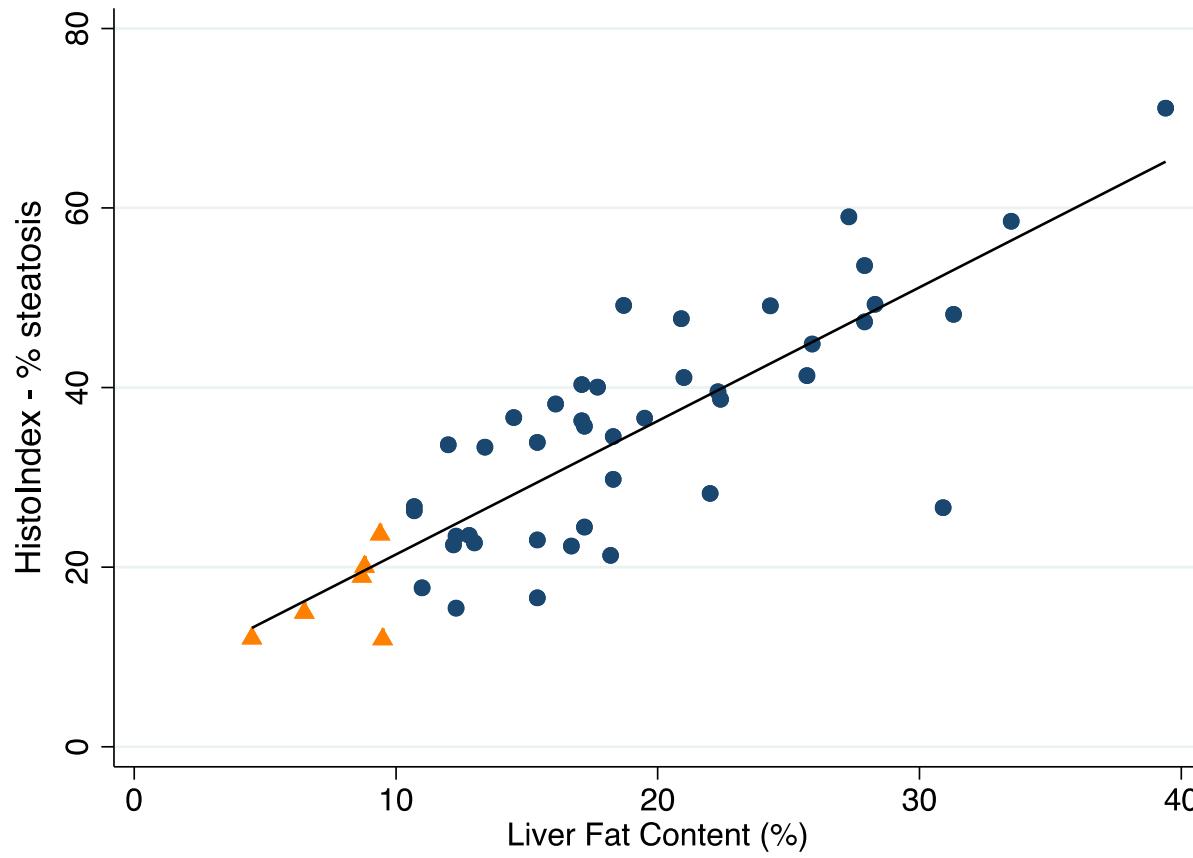


Fibrosis Stage (NASH-CRN)

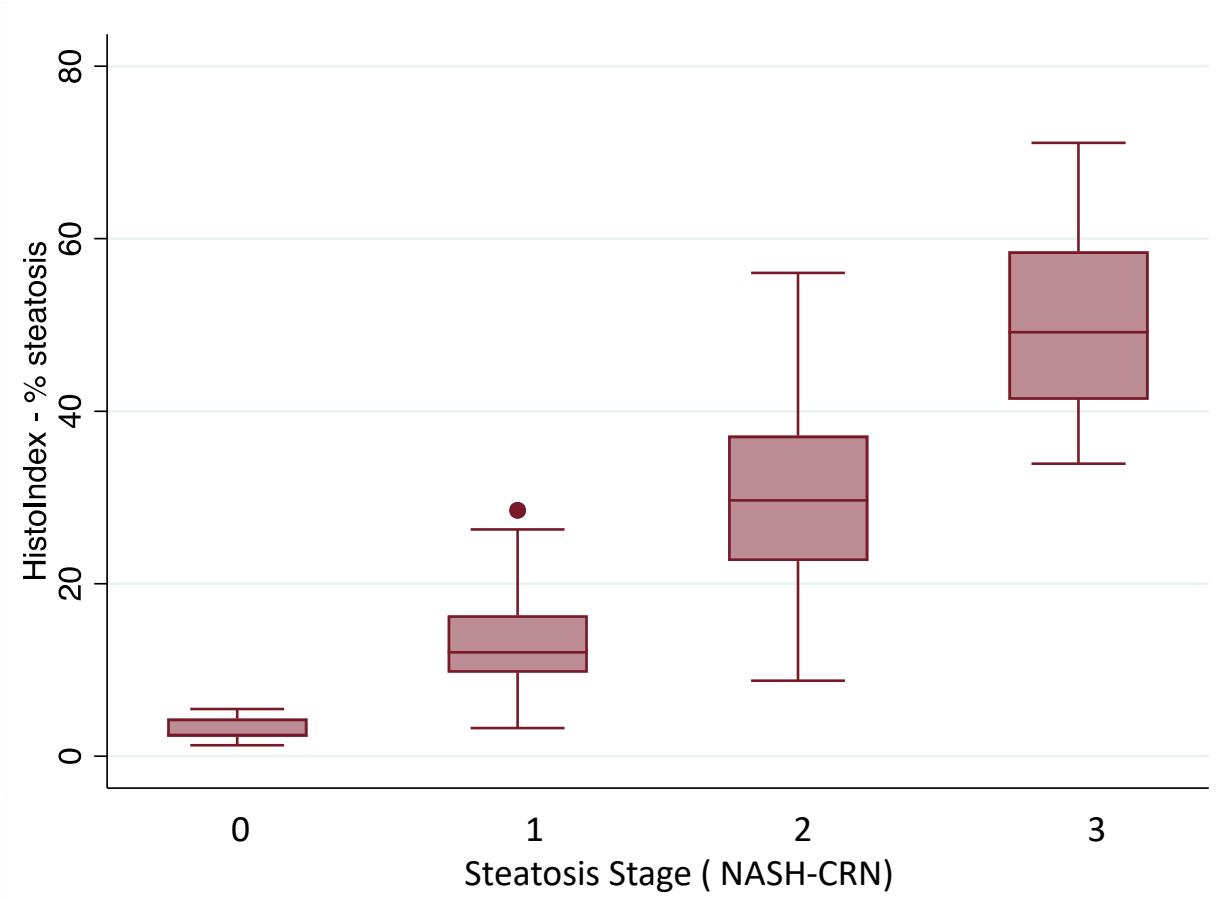
▲ F0-F1   ● F2-F3   ■ F4

# Non-Invasive Markers of Steatosis

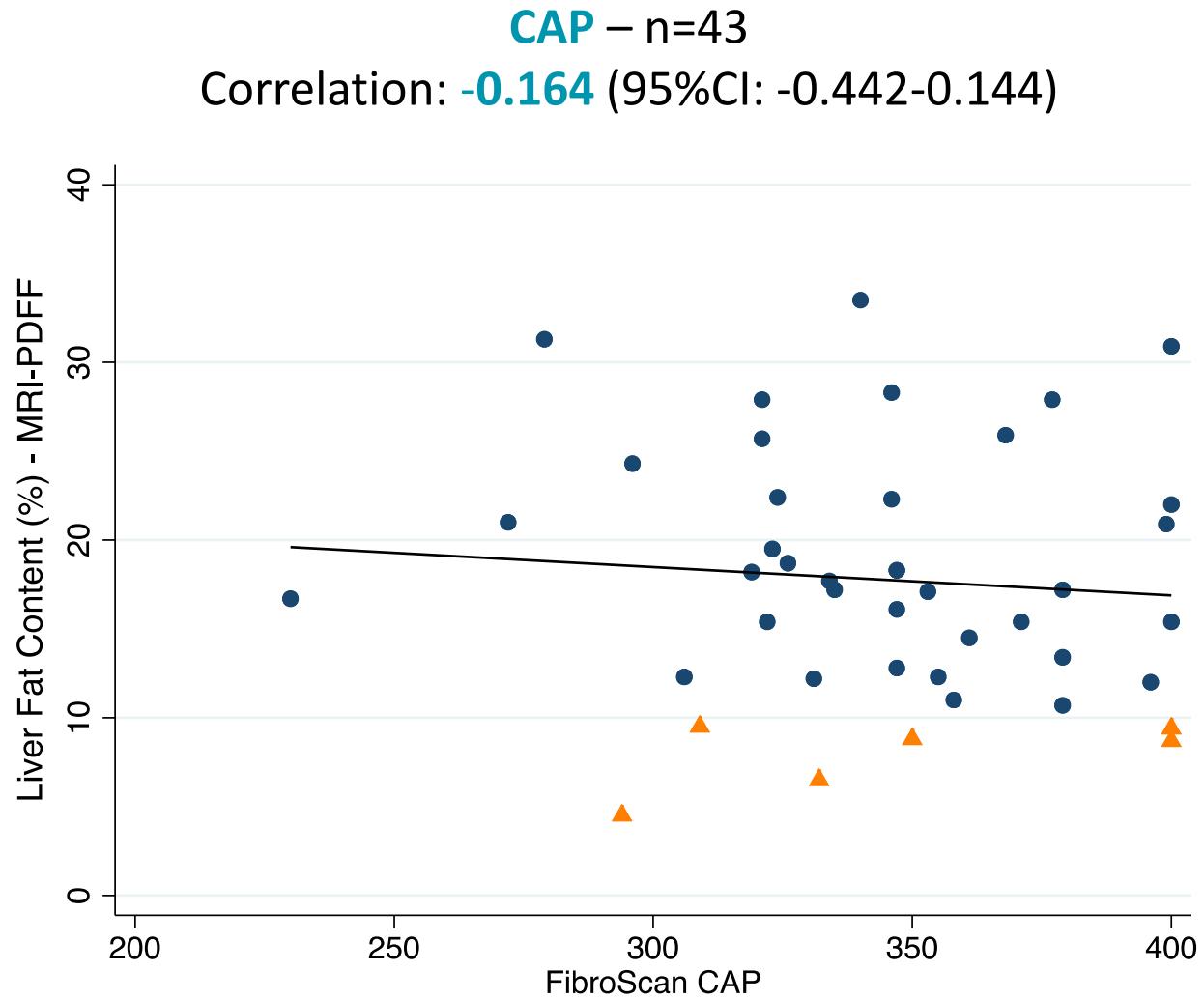
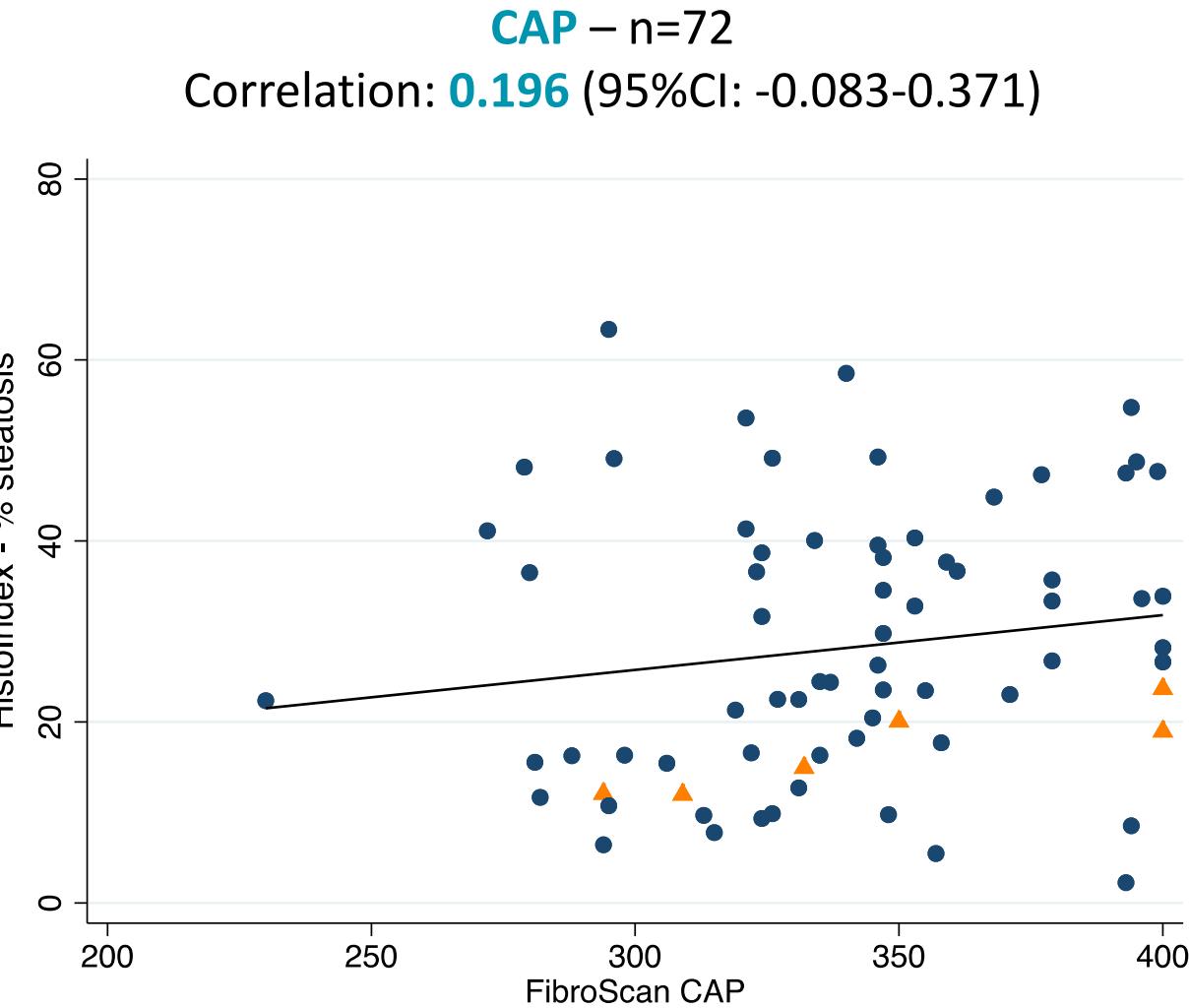
**Liver Fat Content (MRI-PDFF) – n=48**  
Correlation: **0.816** (95%CI: 0.692-0.893)



**HistoIndex versus NASH-CRN**

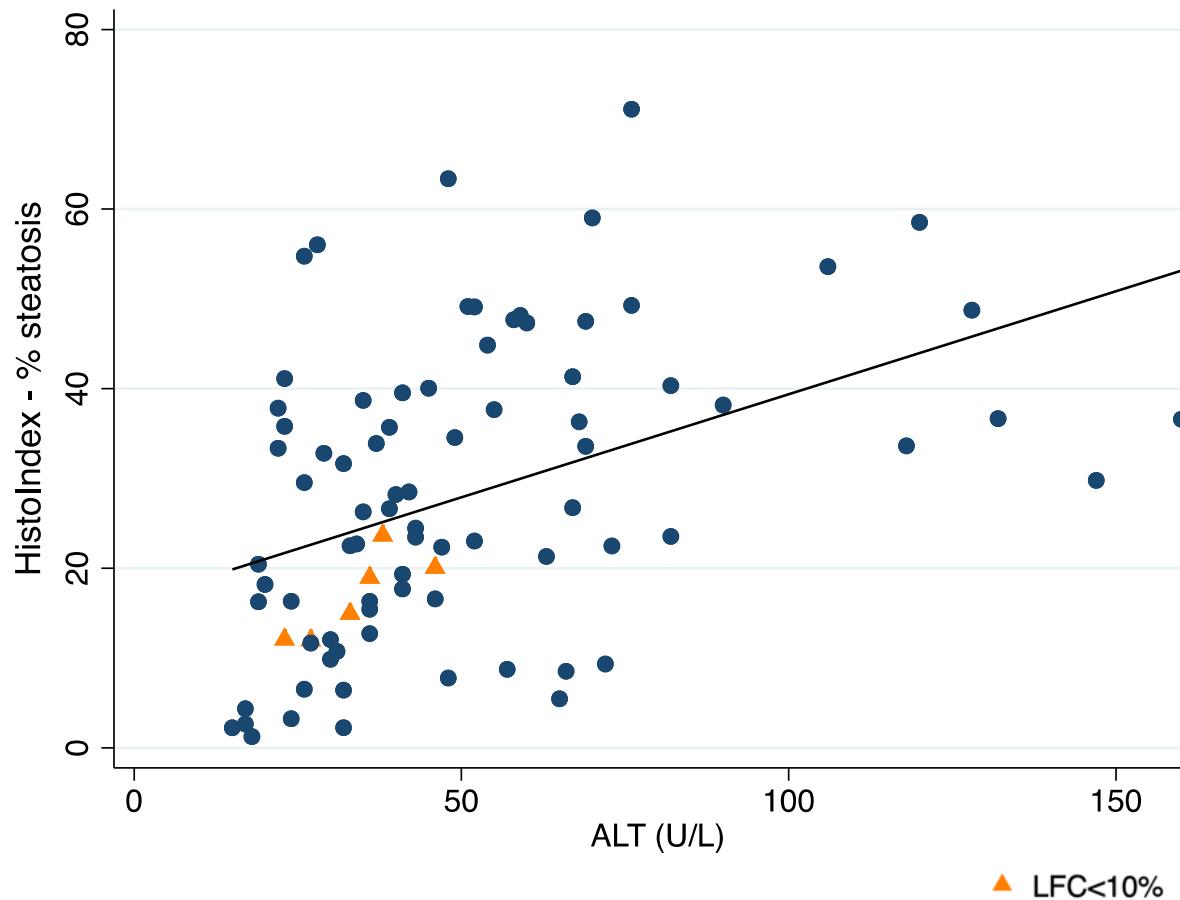


# Non-Invasive Markers of Steatosis

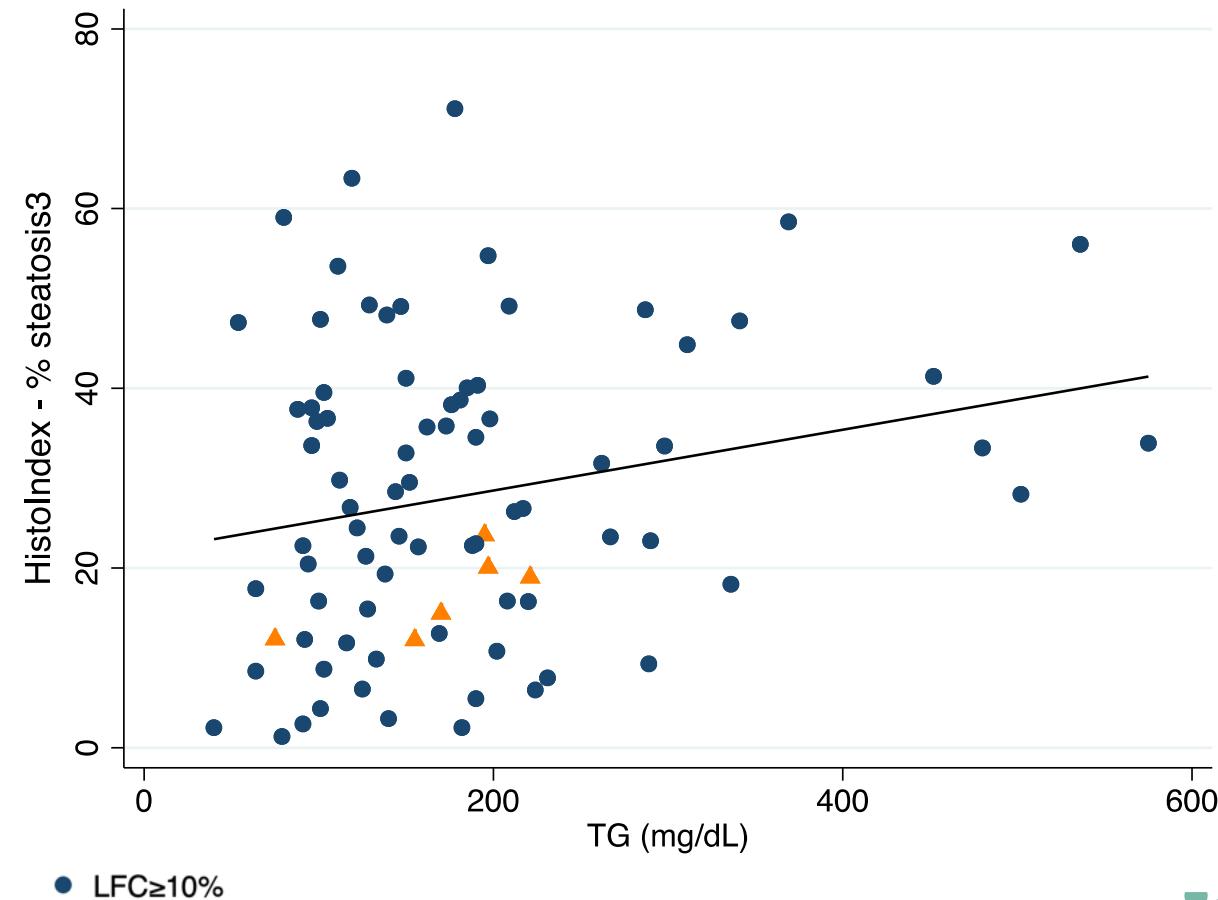


# HistolIndex / NITs correlation

**ALT – n=86**  
Correlation: **0.483** (95%CI: 0.303-0.631)



**TG – n=85**  
Correlation: **0.177** (95%CI:-0.037-0.376)

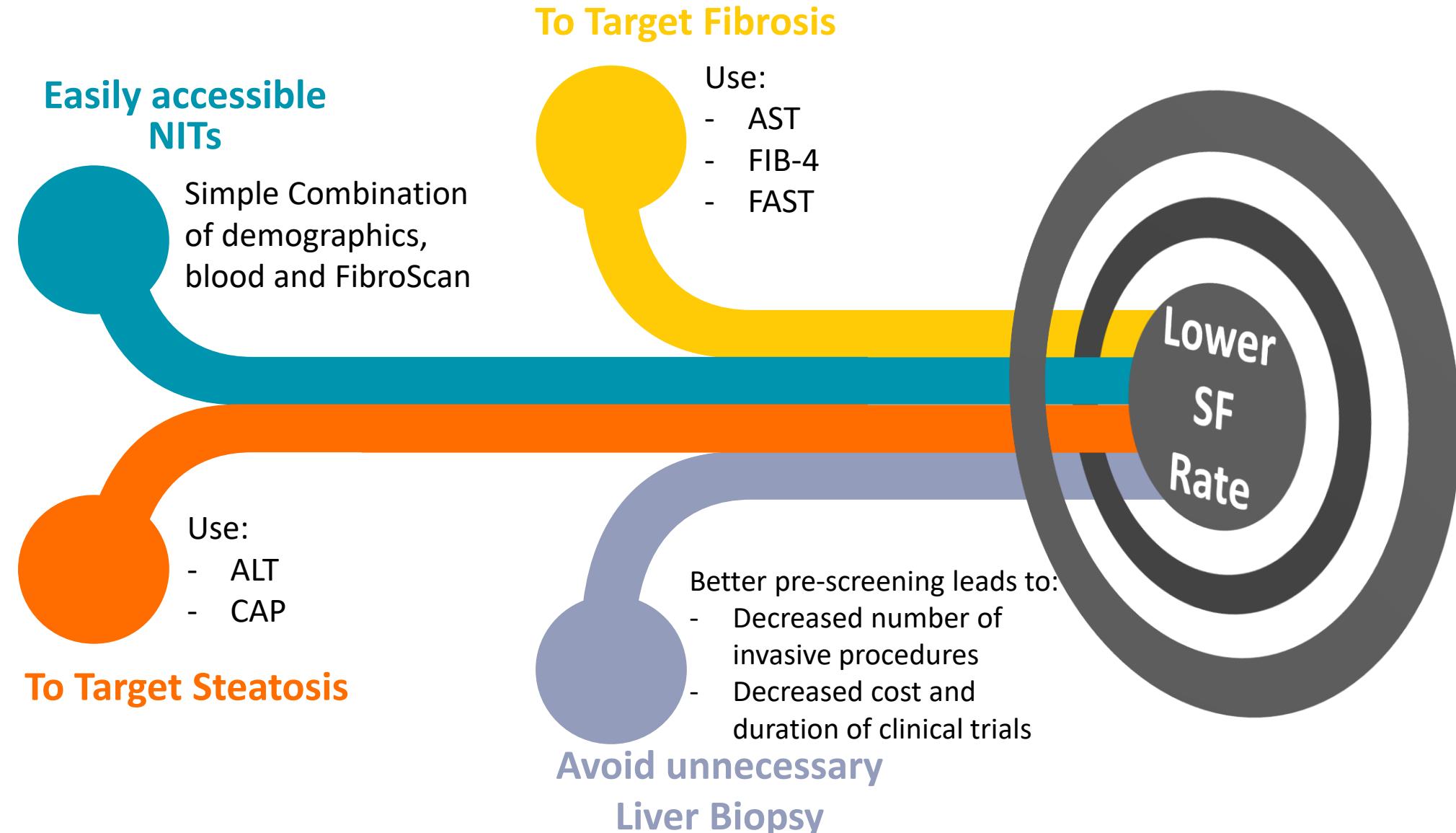


# Non-Invasive Tests - Take Home Messages

- High SF rate in biopsy-proven NASH trials (>80%)
- Impact of inclusion/exclusion criteria to mitigate SF rate
  - In the current study: a protocol amendment with inclusion of AST and FibroScan CAP thresholds led to decrease in SF rate from 96% to 80%
- We found moderate to good correlations between non-invasive biomarkers and HistoIndex
  - AST, FIB-4 and FAST+++
- Strong correlation between HistoIndex Steatosis and MRI-PDFF



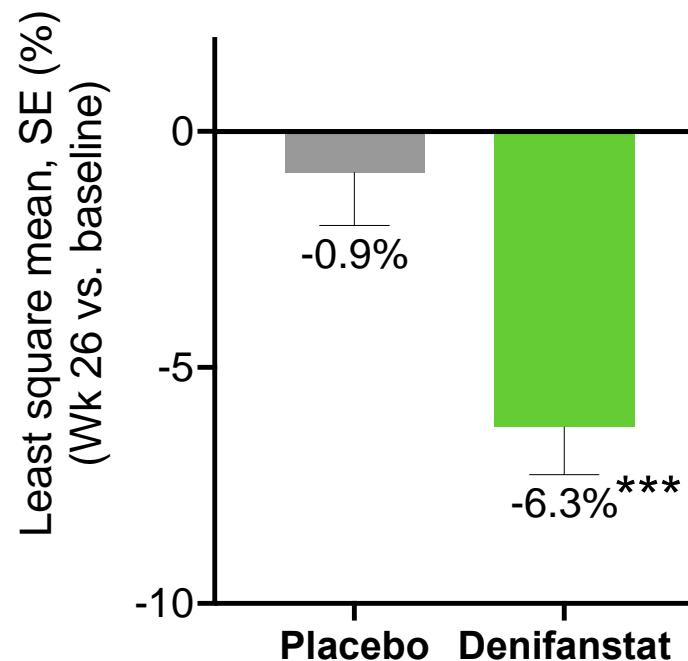
# Non-Invasive Tests - Take Home Messages



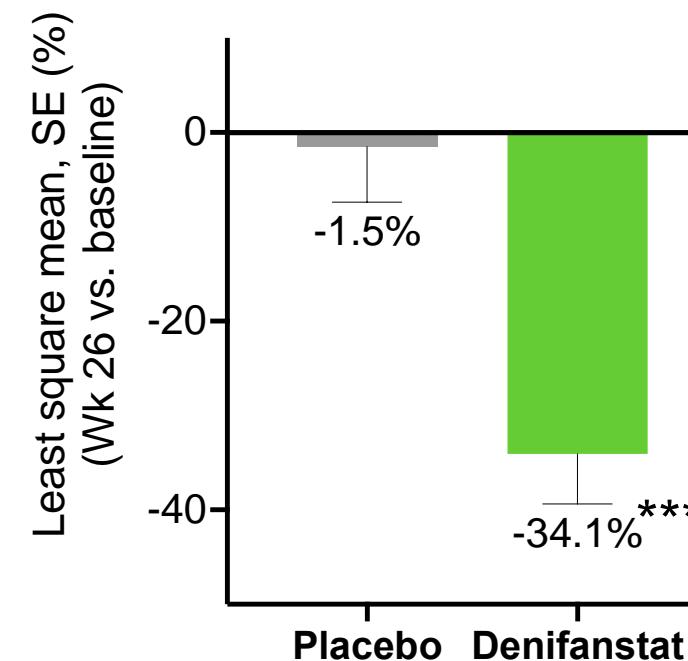
# FASCINATE-2 interim results – denifanstat vs. placebo

67% MRI-PDFF responder rate observed at week 26

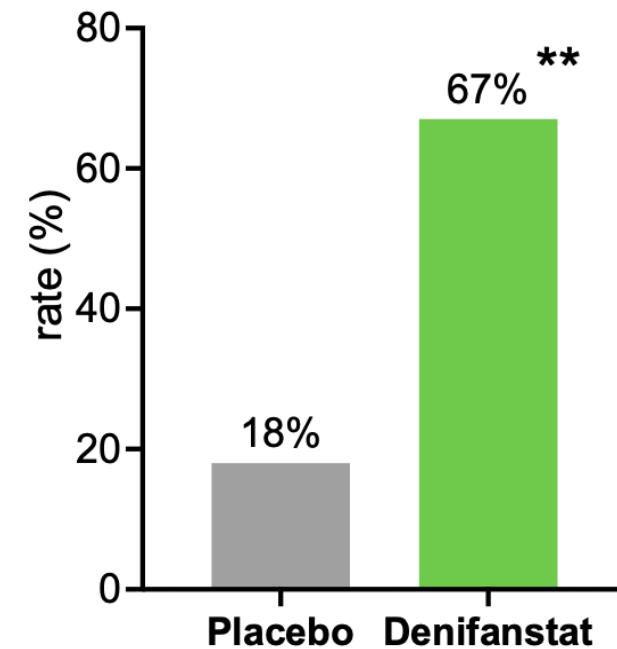
**Liver fat absolute change**  
(MRI-PDFF)



**Liver fat % change**  
(MRI-PDFF)



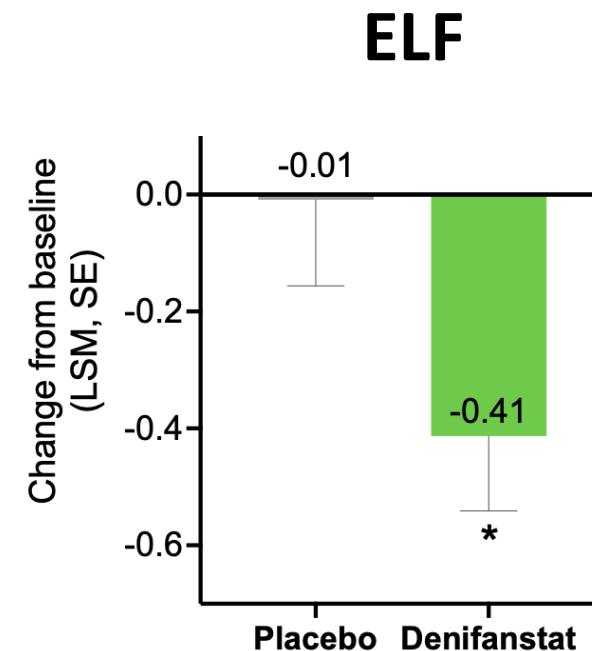
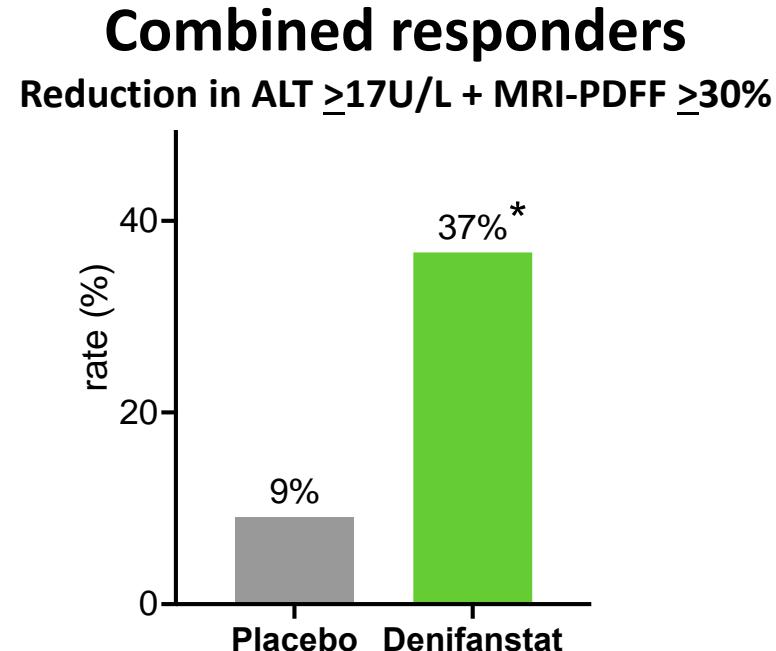
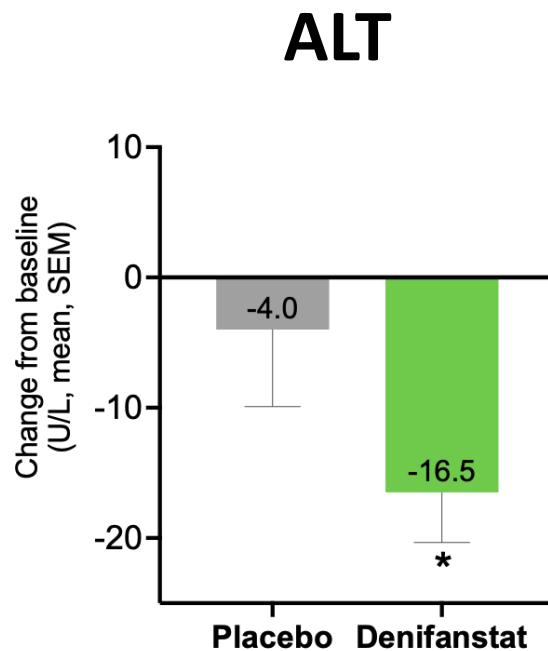
**Responder analysis**  
(≥30% fat reduction)



9 of 20 denifanstat responders  
had ≥50% liver fat reduction

# FASCINATE-2 interim results – denifanstat vs. placebo

## *Significant reduction in ALT and ELF at week 26*



- No treatment related SAEs, majority of AEs mild to moderate (Grade 1/2)
- Results confirm denifanstat activity in a biopsy-proven advanced NASH population (46% F2/54% F3)
- Inhibition of FASN impacts steatosis, inflammation and fibrosis - 3 key disease characteristics of NASH

\* p < 0.05, placebo (n=20), denifanstat (n=29) for ALT; placebo (n=15), denifanstat (n=20) for ELF  
Two sided ANCOVA. ELF results are shown for all patients with data available.

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# THANK YOU

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