



**Novel Biology.  
Powerful Medicines.  
Transformative Impact.**

**NGM Biopharmaceuticals, Inc.**

CORPORATE OVERVIEW

FEBRUARY 2020

NASDAQ: NGM



# Safe Harbor Statement

This presentation contains forward-looking statements, including, but not limited to, statements regarding potential indications for, and planned development of, product candidates in NGM's pipeline, including aldafermin (NGM282); the planned timing of initiation, enrollment and results of NGM's clinical trials; the potential activity, complementarity, safety, tolerability and efficacy of NGM's product candidates, including aldafermin and specifically including its differentiation and the potential benefits of extended treatment with aldafermin; NGM's option to participate in the economic return of any programs licensed by Merck; NGM's expectation of potential value-driving catalysts and the timing thereof; and any other statements other than statements of historical facts. Because such statements deal with future events and are based on NGM's current plans, objectives, estimates and expectations, they are subject to significant risks and uncertainties and actual results and achievements and the timing of events could differ materially from those described in or implied by the statements herein. Such risks and uncertainties include, without limitation, those associated with the costly and time-consuming pharmaceutical product development process and the uncertainty of clinical success, including risk related to failures or delays in initiating, enrolling or completing clinical trials; the risk that results obtained in NGM's clinical trials to date may not be indicative of results obtained in ongoing or future trials, including the risk that ongoing or future studies show that aldafermin is not a tolerable or effective treatment for NASH patients; seeking and maintaining protection of intellectual property; NGM's reliance on third party manufacturers and delays or problems in the manufacture of product candidates; and other risks and uncertainties affecting NGM and its development programs, including those described under the caption "Risk Factors" and elsewhere in NGM's quarterly report on Form 10-Q for the quarter ended September 30, 2019 and future filings and reports of NGM with the Securities and Exchange Commission. The forward-looking statements contained herein are made only as of the date hereof or as of the dates indicated in the forward-looking statements, even if they are subsequently made available by NGM on its website or otherwise. NGM undertakes no obligation to update or supplement any forward-looking statements after the date hereof, or to update the reasons why actual results may differ or differ materially from those anticipated in the forward-looking statements.

# Company Highlights



## Aldafermin (NGM282)

Wholly-owned,  
Phase 2b product  
candidate for  
treatment of **NASH**  
(non-alcoholic  
steatohepatitis)



## NGM313 (MK-3655)

Insulin sensitizer  
for treatment of  
**NASH** and T2D;  
**Licensed by Merck**



Strategic  
collaboration with  
Merck –  
**up to \$75M/yr. R&D  
support<sup>1</sup>**  
and **NGM option  
on future Merck  
late-stage programs**



Experienced team  
with highly  
productive R&D  
engine generating  
on average  
**~1 development  
candidate/year**



Multiple **key  
milestones** and  
potential **value  
driving catalysts**  
expected in the next  
12-18 months

<sup>1</sup> Merck has committed to provide R&D reimbursement of up to \$50 million per year. If our R&D expenses exceed \$50 million in a given year, Merck can either reimburse up to an additional \$25 million for use in funding IND-enabling or later-staged activities or provide us with the equivalent value in in-kind services for such activities.  
T2D: type 2 diabetes

# Our Expansive Pipeline

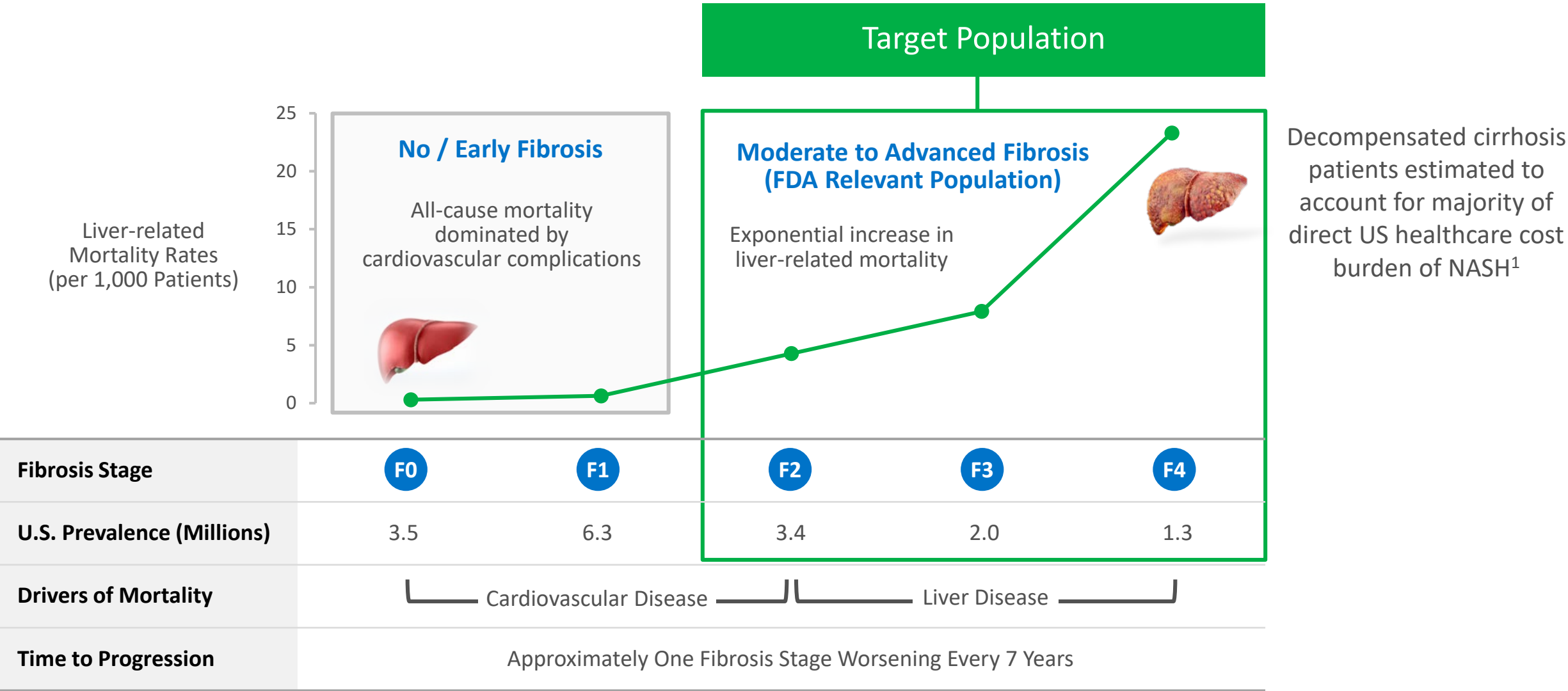
6  
Development  
Programs

PRODUCT CANDIDATE	PRODUCT DESCRIPTION (DOSING FREQUENCY)	POTENTIAL INDICATIONS	STAGE OF DEVELOPMENT	WORLDWIDE COMMERCIAL RIGHTS	
<b>Aldafermin (NGM282)</b>	FGF19 Analog (Once Daily)	NASH	Phase 2b		Wholly-Owned
<b>NGM313 (MK-3655)</b>	FGFR1c/KLB Agonistic Antibody (Once Monthly)	NASH, Type 2 Diabetes	Phase 1b	Licensed	
<b>NGM120</b>	GFRAL Antagonistic Antibody (Long Acting)	Cancer, Cancer Anorexia/Cachexia Syndrome (CACS)	Phase 1a/1b		Option
<b>NGM217</b>	Undisclosed (Long Acting)	Diabetes	Phase 1		Option
<b>NGM621</b>	Complement C3 Inhibitory Antibody (Long Acting)	Dry AMD / Geographic Atrophy	Phase 1		Option
<b>NGM395</b>	GDF15 Analog (Long Acting)	Metabolic	Preclinical		Wholly-Owned

FGF19: fibroblast growth factor 19; FGFR1c/KLB: fibroblast growth factor receptor 1c/beta-klotho; GFRAL: glial-cell-derived neurotrophic factor receptor alpha-like; GDF15: growth differentiation factor 15

February 26, 2020

# Improving Fibrosis Leads to Better Outcomes for NASH Patients

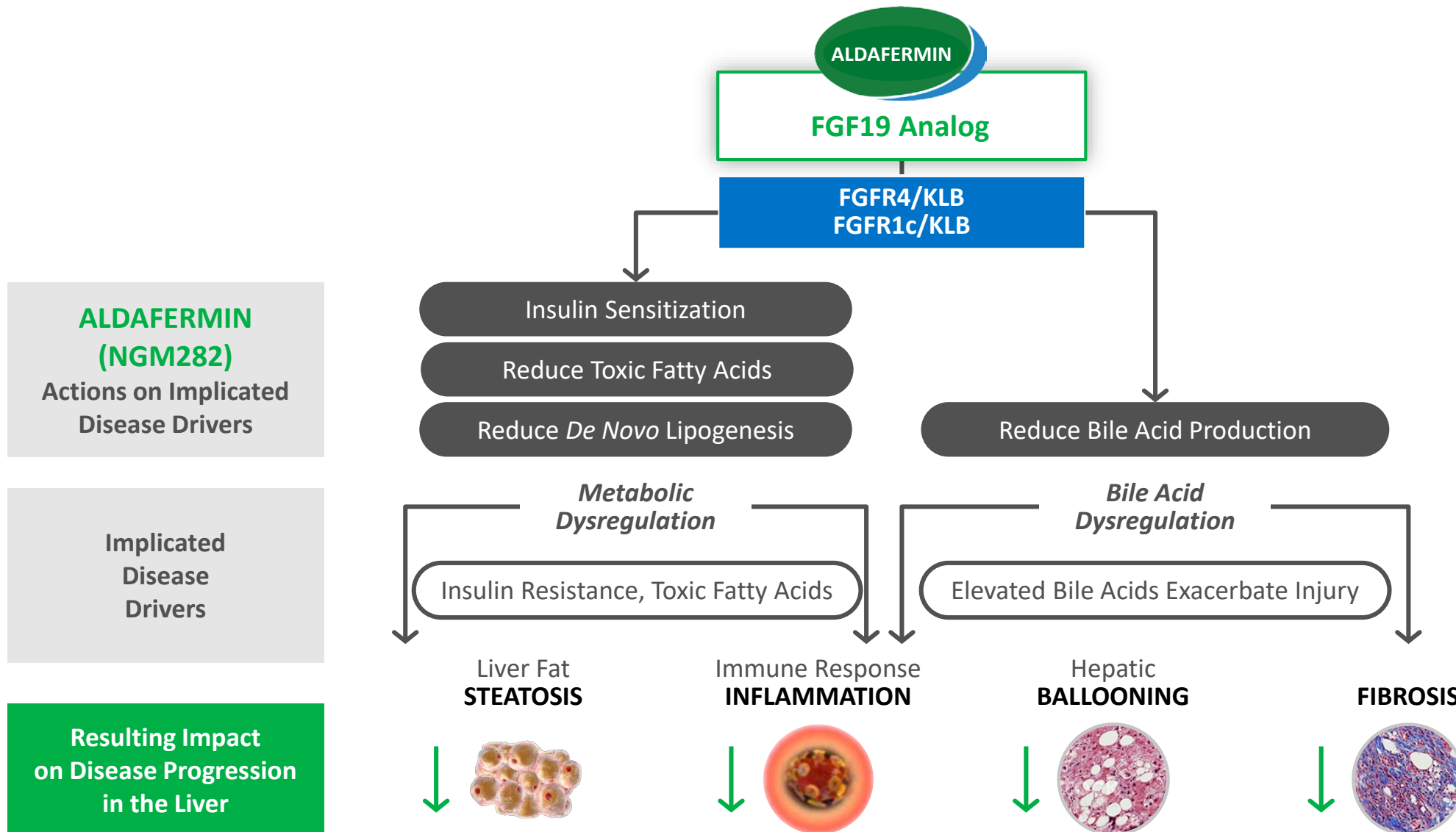


Sources: Dulai et al, Hepatology 2017, 65(5):1557-1565; Singh et al, Clin Gastroenterol Hepatol. 2015, 13(4): 643–654; Estes et al, Hepatology 2018, 67(1): 123-133.

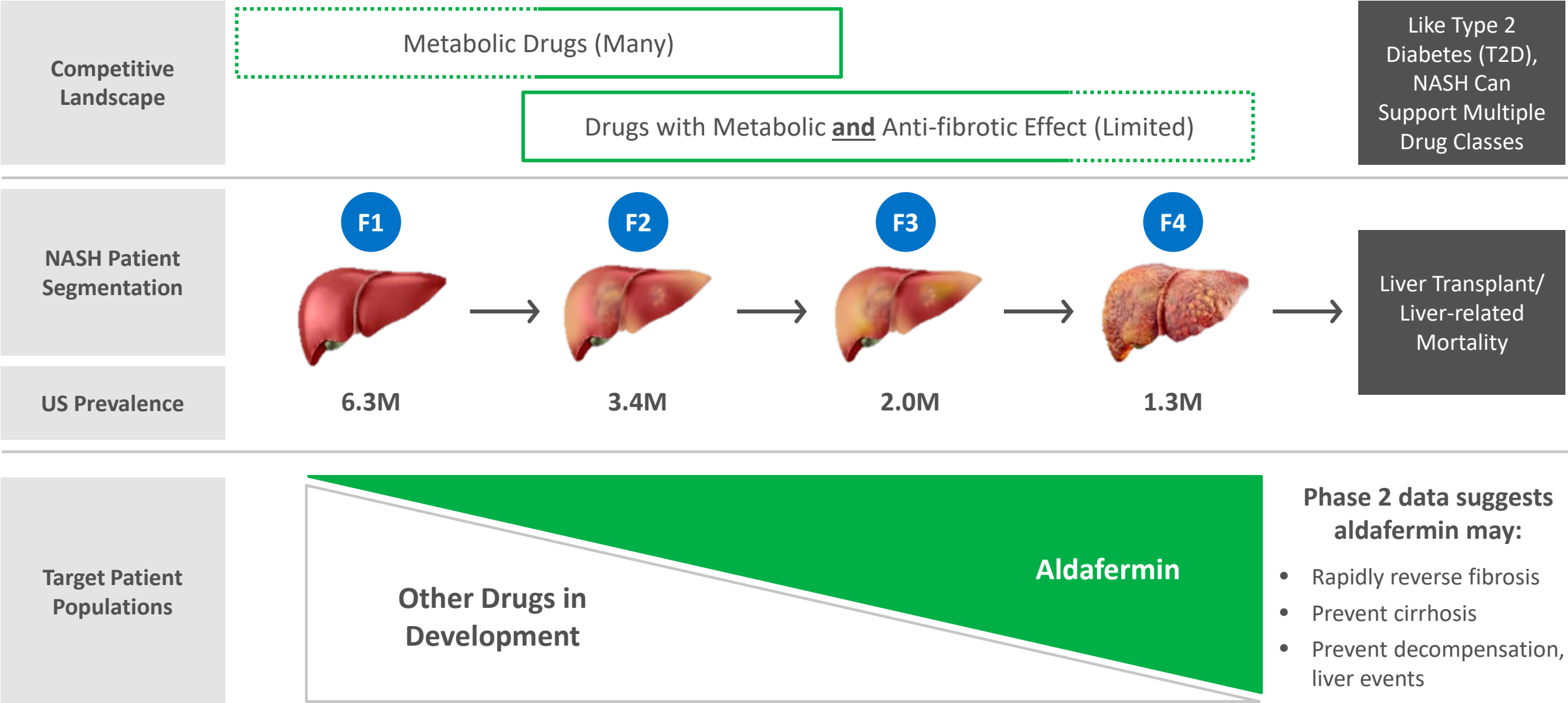
<sup>1</sup> H Razavi, Paris NASH meeting July 5, 2018 presentation "The value proposition of NASH therapy on the burden of disease related to obesity"




# Aldafermin Impacts the Key Drivers of NASH Pathogenesis



# Unlike Many Other Drugs in Development, Aldafermin Targets Fibrosis Reversal and Cirrhosis Prevention in Advanced NASH Patients



# NASH Phase 2 Program Provides Foundation for Late-Stage Development of Aldafermin

 Clinical Data in Presentation

  
**COHORT 1**

  
**COHORT 2**

  
**COHORT 3**

  
**COHORT 4**

**Status**

**Completed**

(Published, *The Lancet* 2018)

**Completed**

(Presented, EASL 2018)

**Completed**

(Presented, AASLD 2018)

**Preliminary Topline Results**

(More details planned for EASL 2020)

**Duration**

← 12 Weeks →

24 Weeks

**Aldafermin Dose  
(# Patients)**

Placebo  
(27)

3 mg  
(27)

6 mg  
(28)

0.3 mg  
(23)

1 mg  
(21)

3 mg  
(22)

1 mg  
(28)

Placebo  
(25)

1 mg  
(53)

**HISTOLOGY (Biopsy)**

**NON-INVASIVE MEASURES**

**KEY ENDPOINTS/  
Assessment Measures**



**STEATOSIS**

% Liver Fat Content (LFC)  
(MRI-PDFF)



**INFLAMMATION**

ALT/AST  
(Biomarkers)



**BALLOONING**

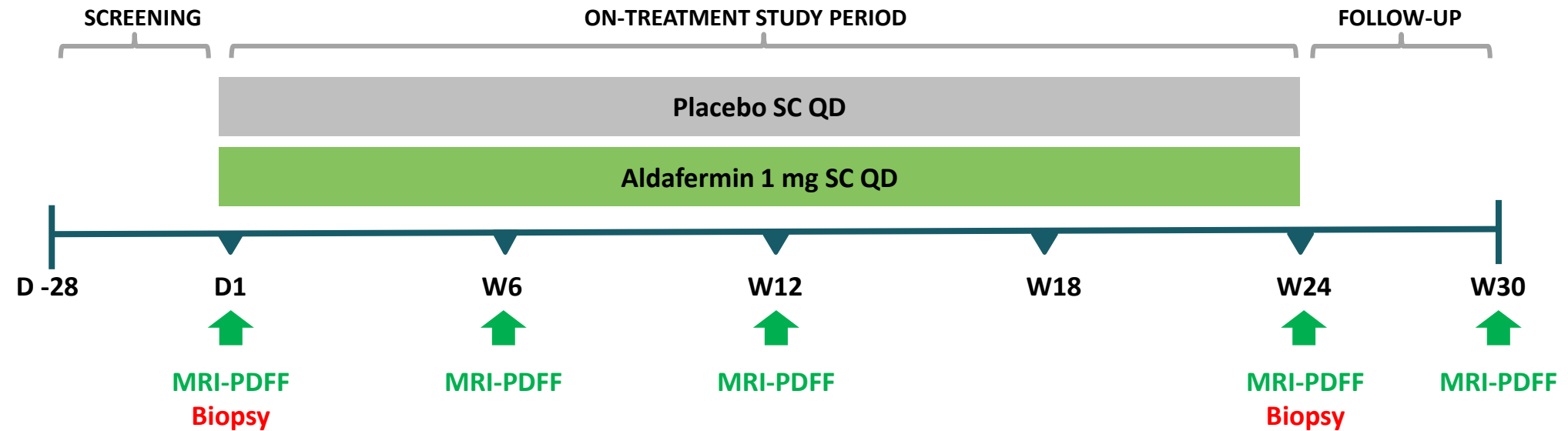


**FIBROSIS**

ELF/PRO-C3  
(Biomarkers)



# Cohort 4: A 24-Week, Double-Blind, Placebo-Controlled Multi-Center Ph2 Study of Aldafermin in Patients with Biopsy-Proven NASH



Safety population	N=78	Aldafermin : placebo (2:1)
Efficacy population	N=77	At least one dose and valid post-dose efficacy value
Liver histology population	N=72	Valid, non-missing biopsy at baseline and W24

- Key inclusion criteria include:
  - Biopsy-confirmed NASH with NAS  $\geq 4$  (1 point in each component); stage 2 or 3 liver fibrosis (F2 or F3 by NASH CRN criteria)
  - Absolute liver fat content (LFC)  $\geq 8\%$  by MRI-PDFF
  - ALT  $\geq 19$  IU/L in females, ALT  $\geq 30$  IU/L in males
- **Primary endpoint:** change from baseline in absolute LFC (as measured by MRI-PDFF) at W24
- **Secondary and exploratory endpoints** include ALT, AST, biomarkers of fibrosis and effect on liver histology at W24
- Over-encapsulated rosuvastatin (ROS 20 mg) started at W2 if low-density lipoprotein cholesterol (LDL-C) rise of 10 mg/dL observed

# Patient Baseline Demographics and Characteristics (Cohort 4 Efficacy Population)

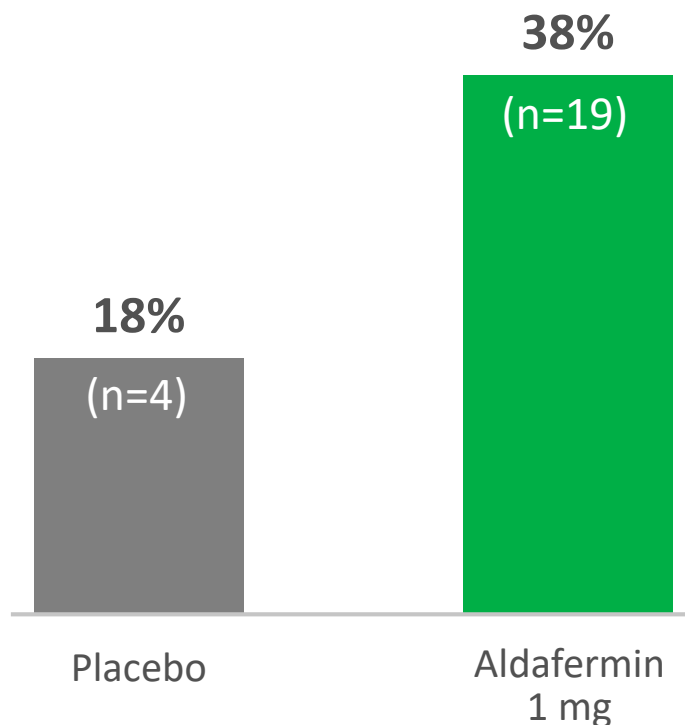


Parameters Mean (SD)	Placebo (n=25)	Aldafermin 1 mg (n=52)
Age (years)	54.1 (9.7)	53.0 (12.1)
Sex (Male/Female)	9 / 16	27 / 25
Weight (kg)	102.5 (29.7)	100.1 (21.0)
BMI (kg/m <sup>2</sup> )	36.8 (9.0)	35.8 (6.4)
Waist (cm)	114.3 (17.0)	111.9 (15.4)
Type 2 Diabetes, n (%)	16 (64%)	31 (60%)
NAFLD Activity Score (NAS)	5.4 (1.1)	5.7 (1.1)
Fibrosis stage (F2 / F3) <sup>1</sup>	13 / 9	27 / 23
Liver Fat Content (% by MRI-PDFF)	18.5 (6.8)	18.0 (5.9)
Alanine aminotransferase, ALT (IU/L)	55.1 (29.6)	73.3 (39.6)
Aspartate aminotransferase, AST (IU/L)	44.3 (23.7)	54.5 (27.4)
HDL-C (mg/dL)	34.5 (16.7)	31.7 (12.5)
LDL-C (mg/dL)	95.0 (31.6)	95.1 (31.0)
Triglycerides (mg/dL)	167.7 (119.2)	194.2 (164.3)
Pro-C3 (ng/mL)	17.1 (7.0)	17.5 (8.4)

# Cohort 4: Rapid and Sustained Improvement in Fibrosis

## Fibrosis Improvement $\geq 1$ Stage with No Worsening of NASH<sup>1</sup> at W24

(% of Patients)



### Biopsy Reads

- Both baseline and W24 liver biopsies were centrally read by the same NASH-CRN pathologist
- Baseline biopsies were not re-read at end of study
- All biopsies were read blinded to treatment assignment and patient

Liver Histology Population (n=50 aldafermin vs. n=22 placebo)

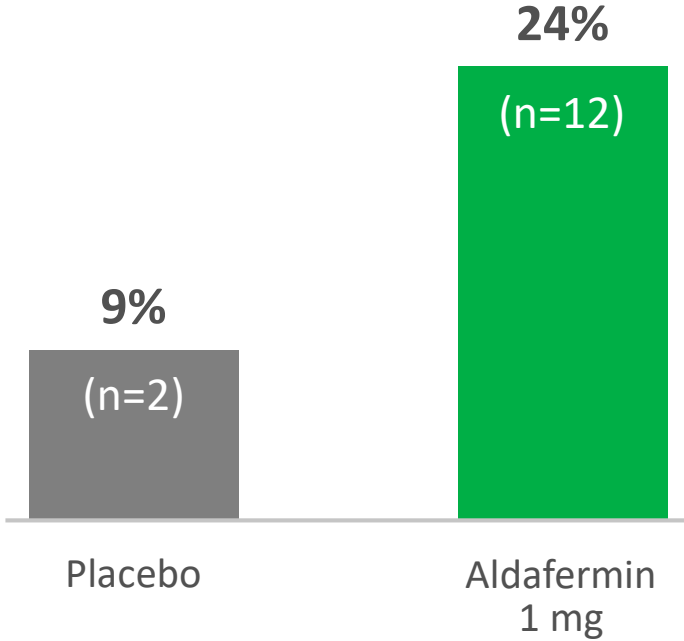
<sup>1</sup> Cohort 4 preliminary topline data; Defined as patients who have an improvement in liver fibrosis by  $\geq 1$  stage with no worsening of NASH (no worsening of steatosis, lobular inflammation or hepatocyte ballooning grade) from baseline to W24 (not powered for statistical significance)

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# Cohort 4: Additional Benefit in Resolution of NASH

## Resolution of NASH without Worsening of Fibrosis<sup>1</sup> at W24

(% of Patients)



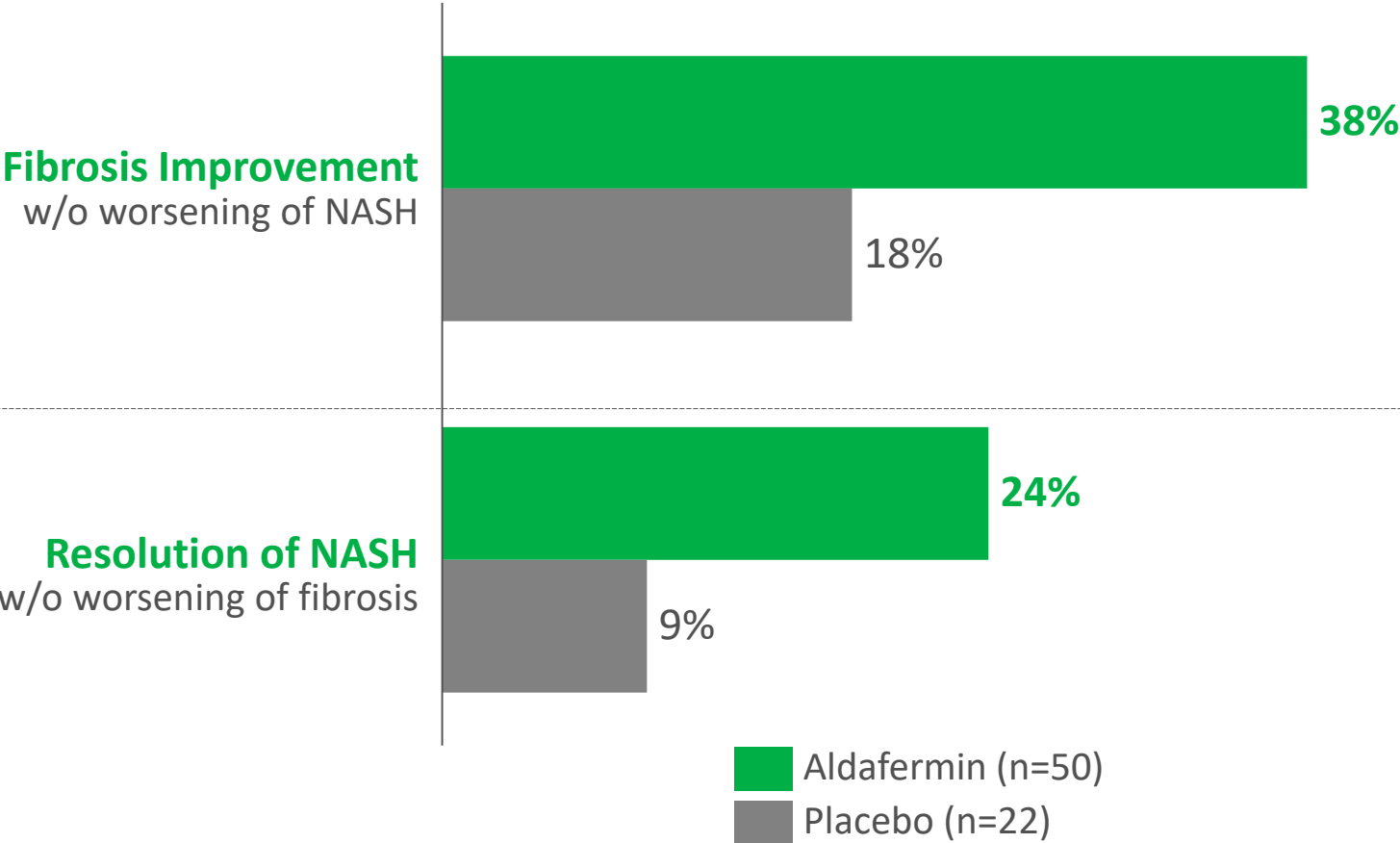
*Liver Histology Population (n=50 aldafermin vs. n=22 placebo)*

<sup>1</sup> Cohort 4 preliminary topline data; Defined as subjects having a NAS score of 0 or 1 for inflammation and 0 for ballooning, with no worsening of fibrosis (no progression of NASH CRN fibrosis stage) from baseline to W24 (not powered for statistical significance)

# Potential Amplification of Fibrosis Improvement and Resolution of NASH with Longer Treatment Duration



**Cohort 4 (W24)**  
1 mg aldafermin vs. placebo



Cohort 3 (W12) 1 mg aldafermin	Cohort 2 (W12) 3 mg aldafermin
25%	42%
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13%	11%
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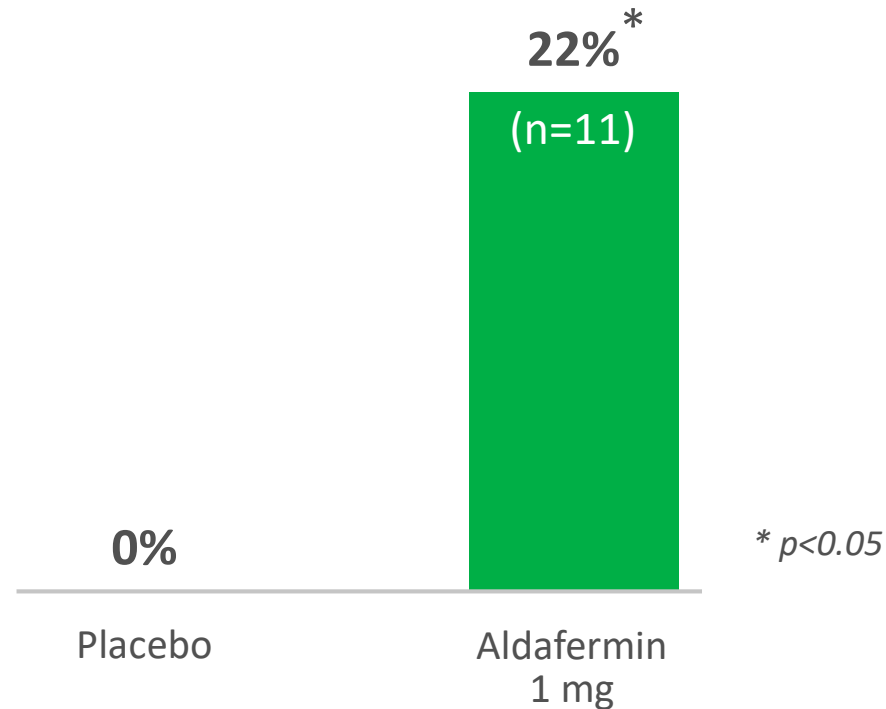
Cohorts 2-3 preliminary data; Cohort 4 preliminary topline data (endpoints not powered for statistical significance); % of patients achieving endpoint  
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# Cohort 4: Statistically Significant Proportion of Patients Achieved Both Fibrosis Improvement AND Resolution of NASH



## Composite Endpoint of Fibrosis Improvement AND Resolution of NASH<sup>1</sup> at W24

(% of Patients)



Liver Histology Population (n=50 aldafermin vs. n=22 placebo)

<sup>1</sup> Cohort 4 preliminary topline data; Defined as patients who have an improvement in liver fibrosis by  $\geq 1$  stage with no worsening in NASH AND have a NAS score of 0 or 1 for inflammation and 0 for ballooning without worsening of fibrosis at W24 (not powered for statistical significance)

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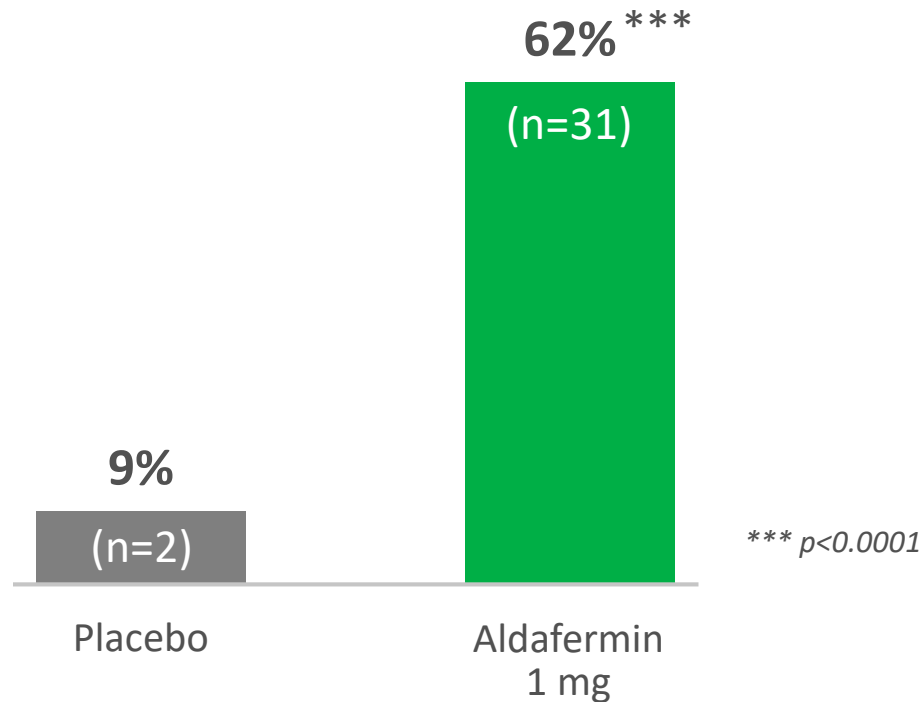


# Cohort 4: Statistically Significant Proportion of Patients Achieved NAS Reduction of $\geq 2$ Points



## Improvement of NAS by $\geq 2$ Points without Worsening of Fibrosis<sup>1</sup> at W24

(% of Patients)



**Statistically significant improvements in each NAS component of:**

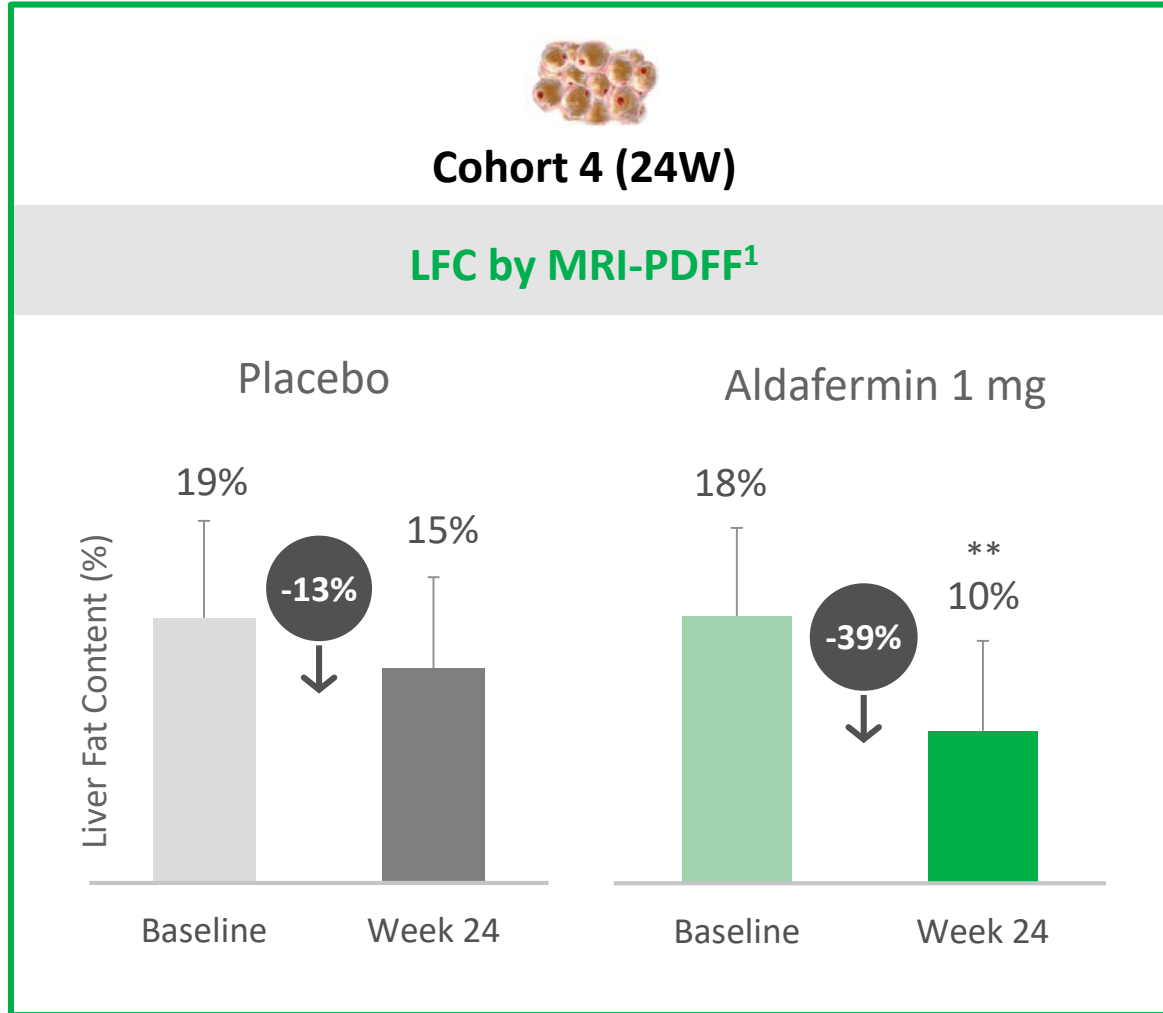
- Steatosis
- Lobular Inflammation
- Ballooning

Liver Histology Population (n=50 aldafermin vs. n=22 placebo)

<sup>1</sup> Cohort 4 preliminary topline data; endpoint not powered for statistical significance

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# Cohort 4 Primary Endpoint Met: Statistically Significant Reduction in Absolute Liver Fat Content (LFC)



- 68% of aldafermin patients achieved  $\geq 5\%$  absolute LFC reduction vs. 24% placebo
- 66% of aldafermin patients achieved  $\geq 30\%$  relative LFC reduction vs. 29% placebo
- Consistent response on LFC across Cohorts 1-4

\*\*P<0.01 vs. placebo

<sup>1</sup> Cohort 4 preliminary topline data; Relative values are calculated as mean change from baseline

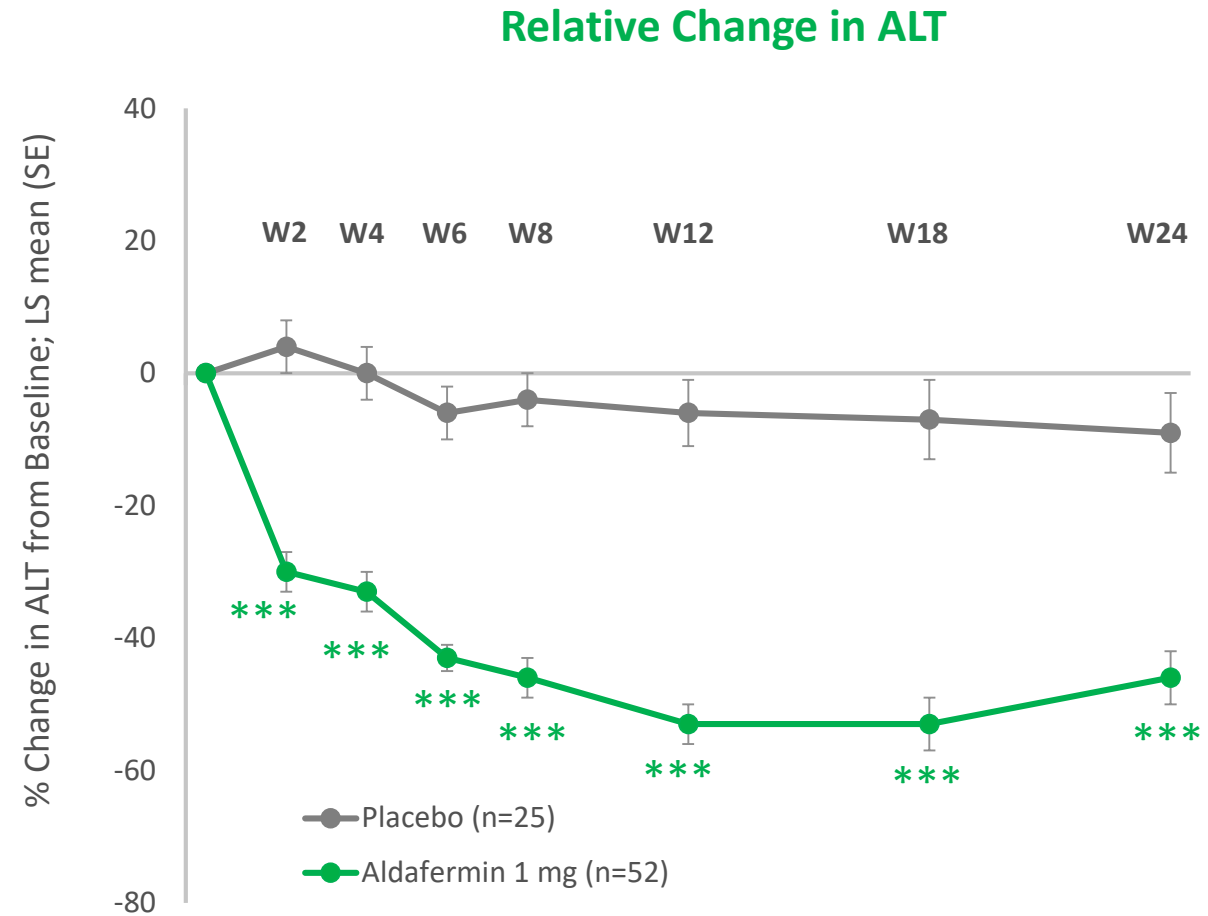
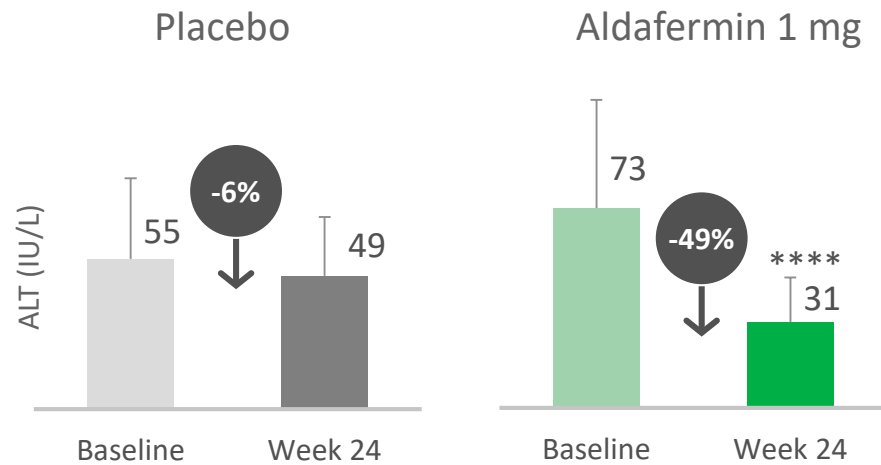
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# Cohort 4: Rapid and Sustained Decrease in ALT to Near Normal Levels with Aldafermin



## Cohort 4 (24W)

ALT (IU/L)<sup>1</sup>

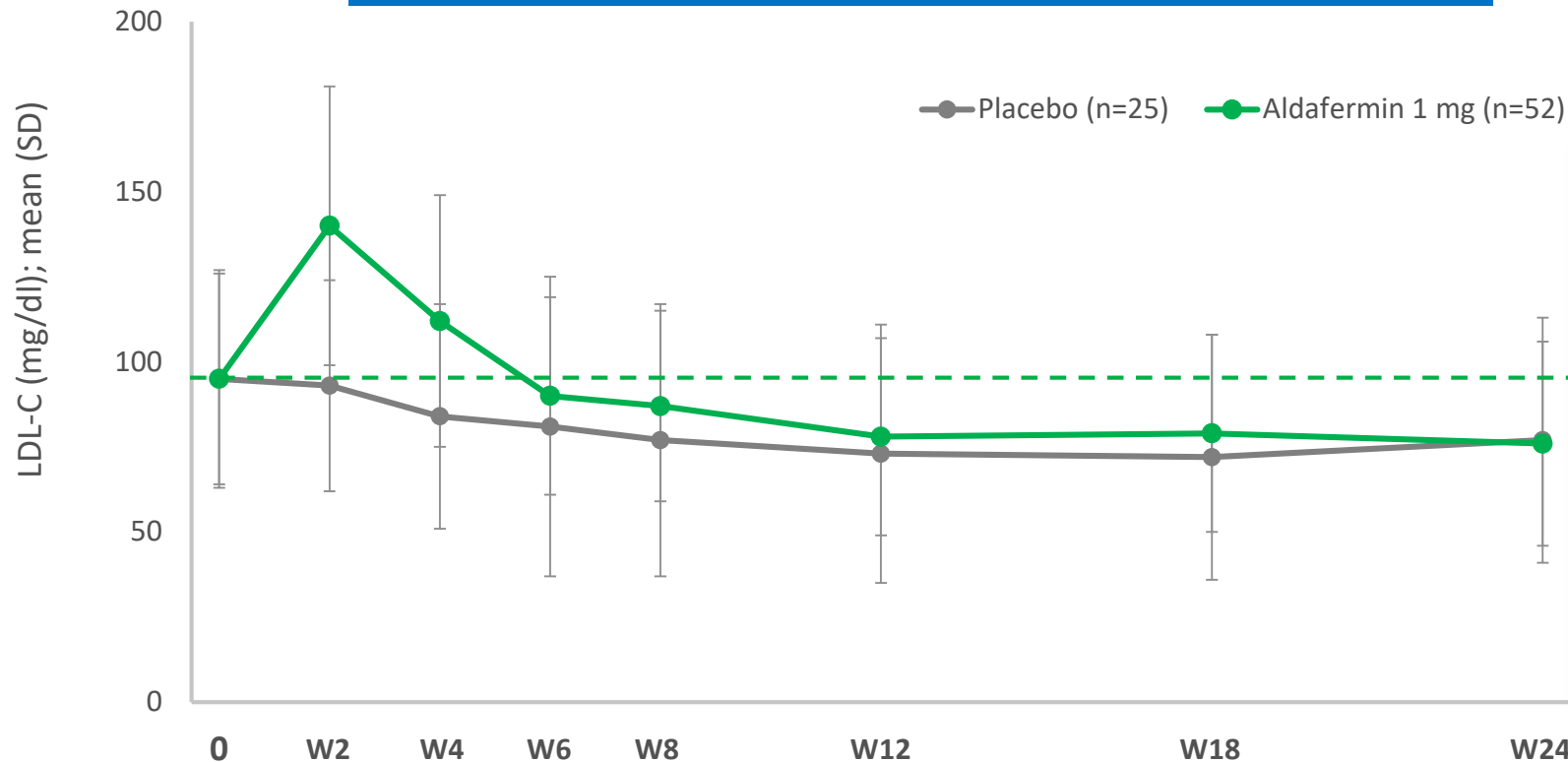


Statistically significant reductions vs. placebo also observed with AST and PRO-C3

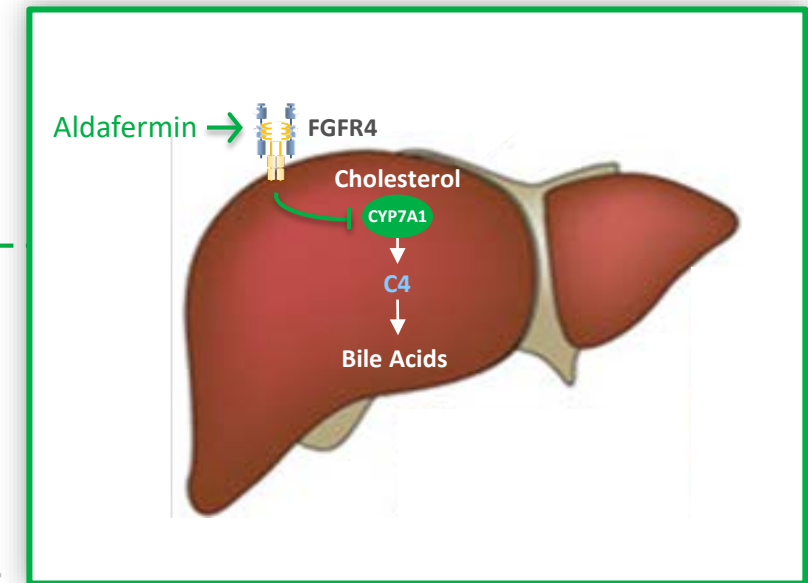
\*\*\*\*P<0.0001, \*\*\*P<0.001 vs. placebo

# Cohort 4: LDL-C Changes Effectively Managed with Statin Therapy

Add Rosuvastatin to Placebo or Aldafermin as Needed  
(If Needed, Titration at W2, W4, W8)



LDL-C elevation is a direct effect of FGF19's inhibition of the classical bile acid synthesis pathway



- Mean LDL-C levels returned to ~77 mg/dL for both placebo and aldafermin arms
- Statistically significant reduction in triglycerides observed as early at W2 and sustained through W24

Cohort 4 preliminary topline data

C4 = 7 $\alpha$ -hydroxyl-4-cholesten-3-one; CYP7A1: cholesterol 7  $\alpha$ -hydroxylase

# Cohort 4: Aldafermin Generally Well Tolerated and Most Common Adverse Events Comparable to Placebo



TEAE Classification	Placebo (N=25)	Aldafermin 1 mg (N=53)
Any TEAE	22 (88.0%)	46 (86.8%)
TEAE Leading to Drug Withdrawal	1 (4.0%)	0
Serious Adverse Event (SAE) <sup>1</sup>	3 (12.0%)	2 (3.8%)
Drug-Related TEAE	11 (44.0%)	27 (50.9%)
TEAE Leading to Death	0	0

- All SAEs were deemed to be not related to treatment by site investigator

Most Common (>10%) Adverse Events	Placebo (N=25)	Aldafermin 1 mg (N=53)
Diarrhea	6 (24.0%)	15 (28.3%)
Headache	9 (36.0%)	7 (13.2%)
Abdominal Distension	3 (12.0%)	7 (13.2%)
Nausea	6 (24.0%)	5 (9.4%)
Fatigue	4 (16%)	3 (5.7%)
Diabetes Mellitus	5 (20.0%)	2 (3.8%)
Peripheral Edema	3 (12.0%)	2 (3.8%)

- Pruritus (4% aldafermin vs. 8% placebo)
- Injection site bruising (6% aldafermin vs. 0% placebo)

Cohort 4 preliminary topline data

<sup>1</sup> SAEs: Placebo (mental status changes; appendicitis; anxiety); Aldafermin (rectal bleeding; post-biopsy bleeding)

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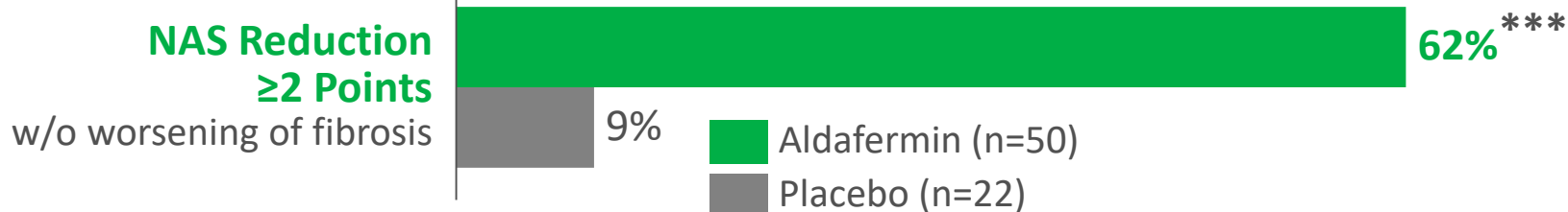
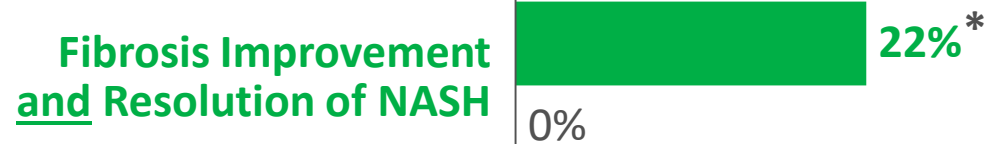
# Phase 2 Data Supports Aldafermin's Potential as Differentiated Monotherapy for Treatment of NASH with Established Fibrosis



**Cohort 4 (W24)**  
1 mg aldafermin vs. placebo

**Cohort 3 (W12)**  
1 mg aldafermin

**Cohort 2 (W12)**  
3 mg aldafermin



25%

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13%

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42%

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11%

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\*\*\*  $p < 0.0001$

\*  $p < 0.05$

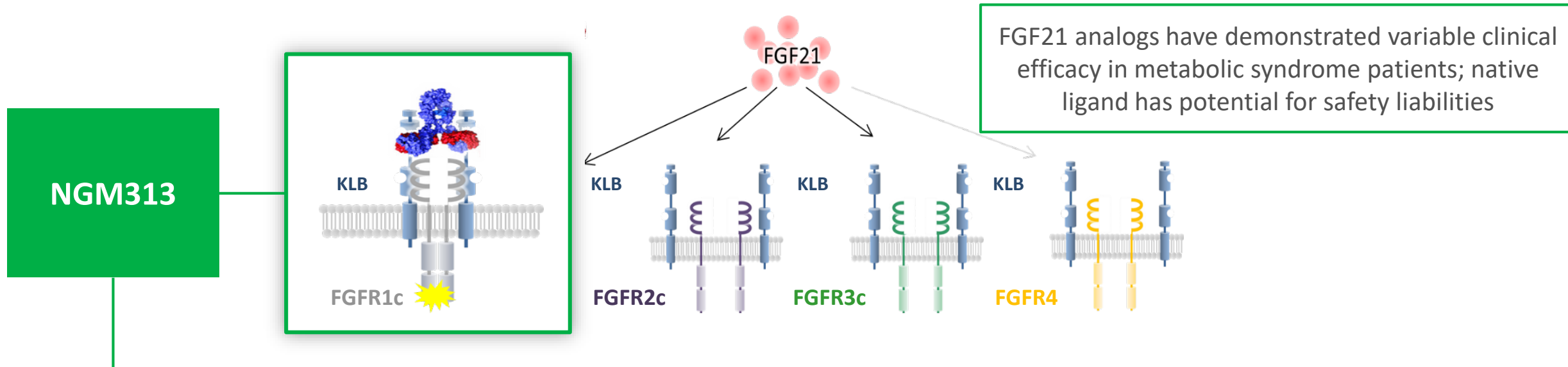


# Summary of Aldafermin Cohort 4 Preliminary Topline Results



- **Meaningful improvements in histology regulatory endpoints:** fibrosis improvement, resolution of NASH and the composite endpoint requiring achievement of both
- Aldafermin's differentiated **rapid dual anti-fibrotic and metabolic effect** is evidenced by the significant improvements observed as early as two weeks
- Cohort 4 data suggest that the histological effects we observed at 12 weeks are **sustained and potentially amplified with extended treatment**
- **Favorable tolerability profile:** most common adverse events occurred with similar frequency in placebo and aldafermin arms

# NGM313 (MK-3655) for the Treatment of NASH and Type 2 Diabetes



- Agonistic antibody that selectively activates FGFR1c / KLB to regulate energy metabolism
- Potential to be once-monthly injectable insulin sensitizer for treatment of NASH and T2D
- Completed Phase 1 SAD/MAD study in obese, insulin resistant subjects and Phase 1b study in subjects with NAFLD
- Single dose of NGM313 resulted in **significant reductions in liver fat content and improvement in metabolic markers** based on preliminary data from a Phase 1b study in obese, insulin resistant subjects with NAFLD **after five weeks**
- Well-tolerated across Phase 1 and Phase 1b studies
- **Merck exercised its option and licensed NGM313 and other FGFR1c/KLB agonists in 4Q18**

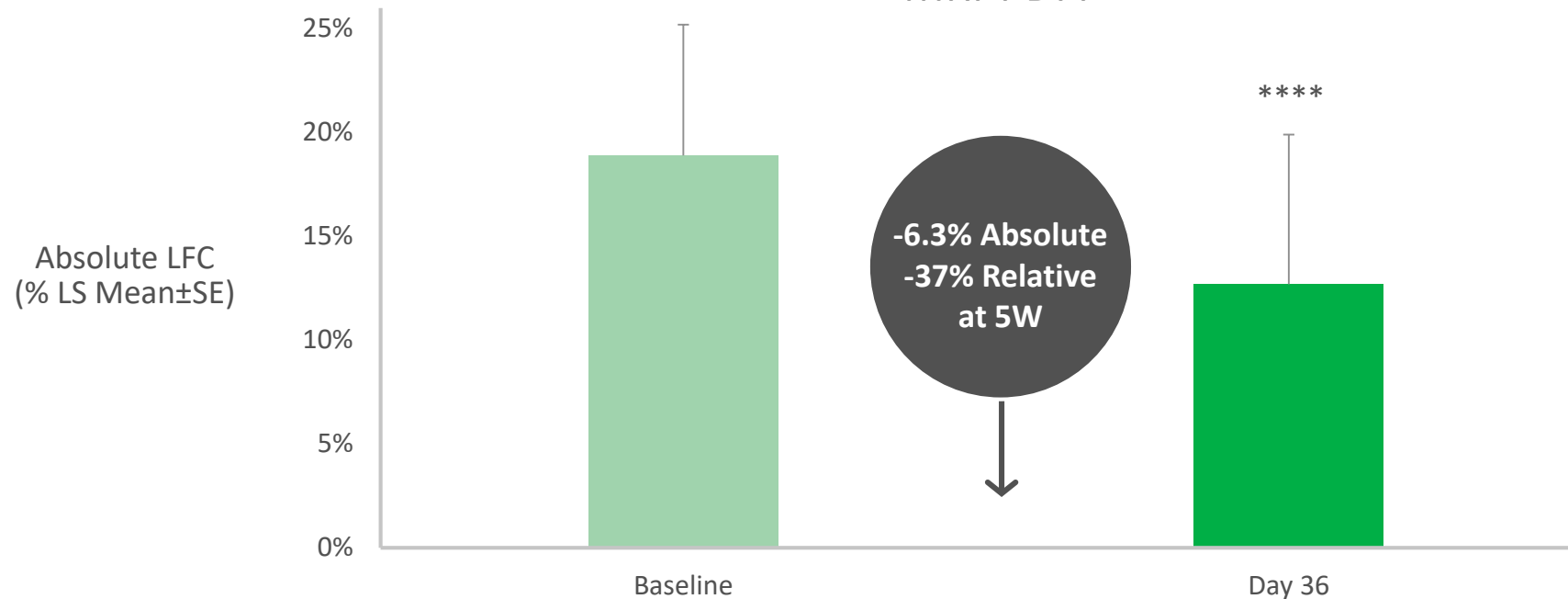
# Significant Reduction in LFC After 5 Weeks Following Single Dose of NGM313 (MK-3655)



## Phase 1b Study in Obese, Insulin Resistant Subjects with NAFLD



**Absolute LFC**  
MRI-PDFF



### Pioglitazone 45 mg (Positive Control)

- 4.0% absolute (25% relative) LFC reduction at 5W

### NGM313

#### Statistically Significant Improvements In:

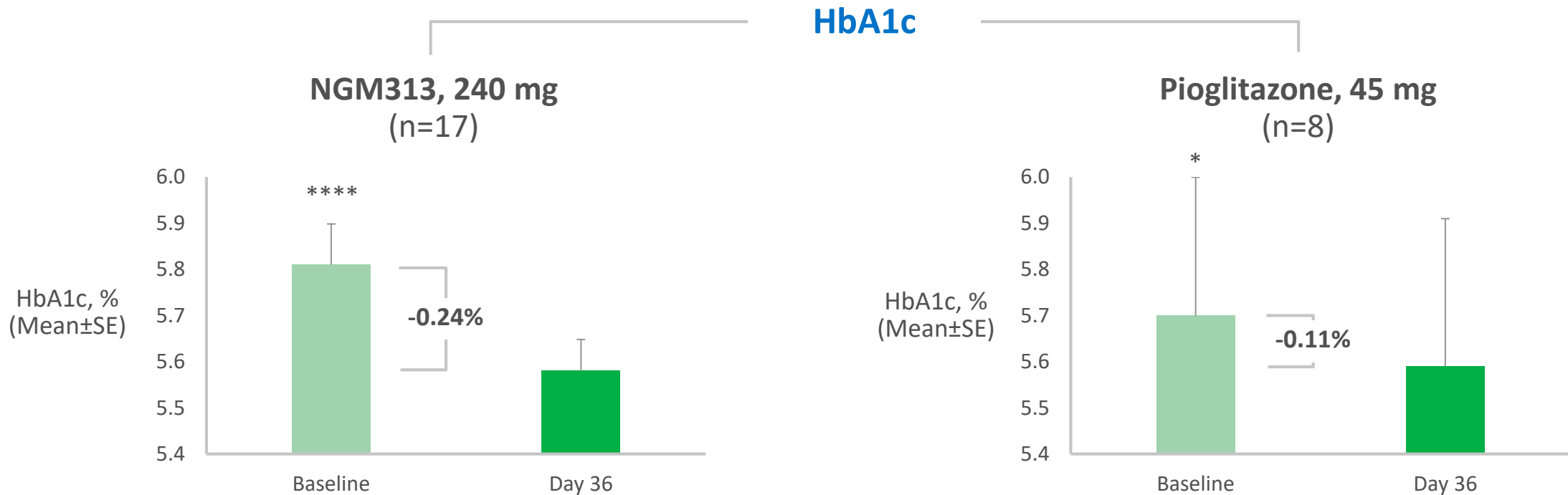
- ALT and AST
- Triglycerides
- HDL-C, LDL-C
- PRO-C3

\*\*\*\* $p < 0.0001$

# Rapid Reduction in HbA1c Without Hypoglycemia After Single Dose of NGM313 (MK-3655)



## Phase 1b Study in Obese, Insulin Resistant Subjects with NAFLD

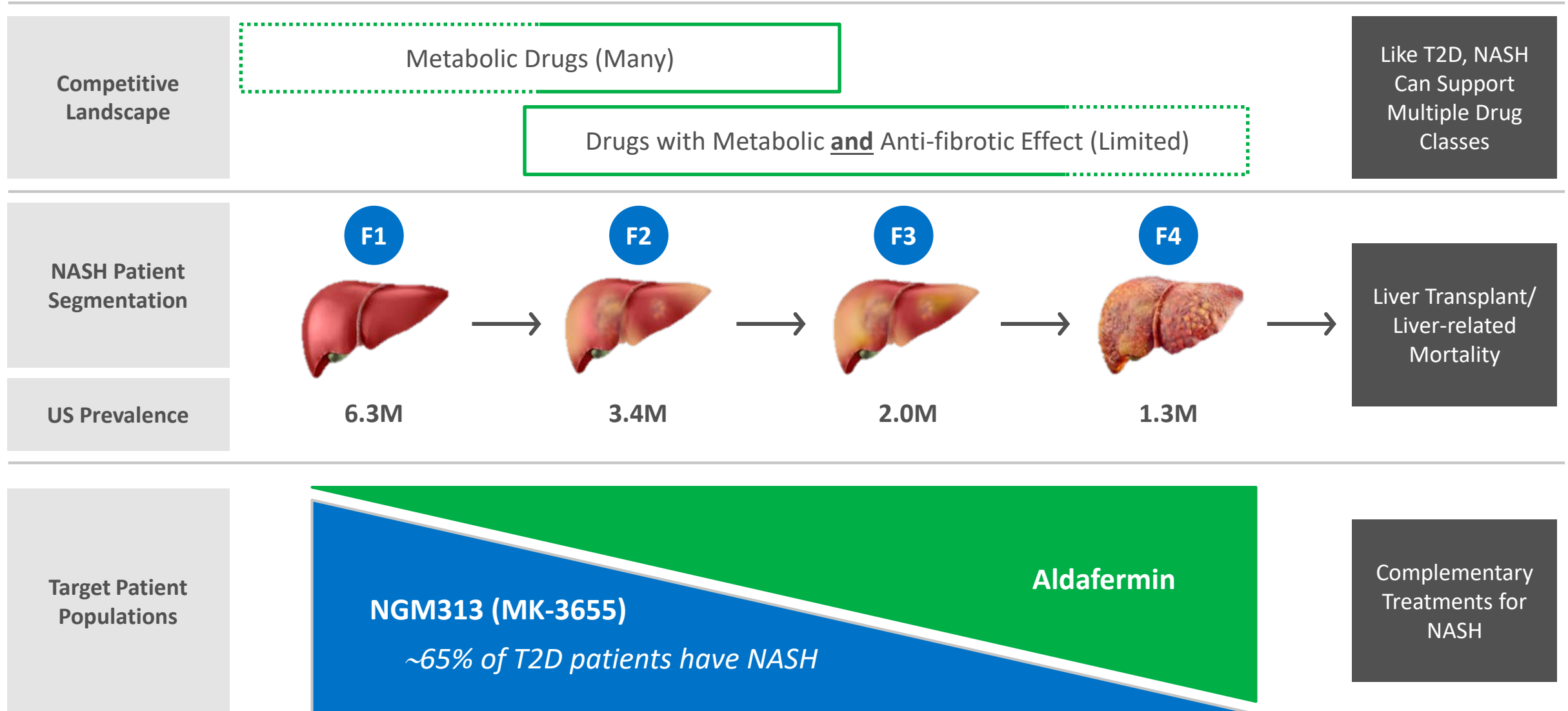


Reduction in HbA1c observed in insulin-resistant, non-diabetic patients supports promise of NGM313 to potentially improve glucose control in patients with T2D

NGM313 increases body weight by 1.6 kg (no edema or fluid retention) vs. 2.4 kg increase with pioglitazone at day 36

\*  $p < 0.05$ ; \*\*\*\*  $p < 0.0001$

# NGM313 (MK-3655) has Potential to Complement Aldafermin by Targeting NASH Population with T2D



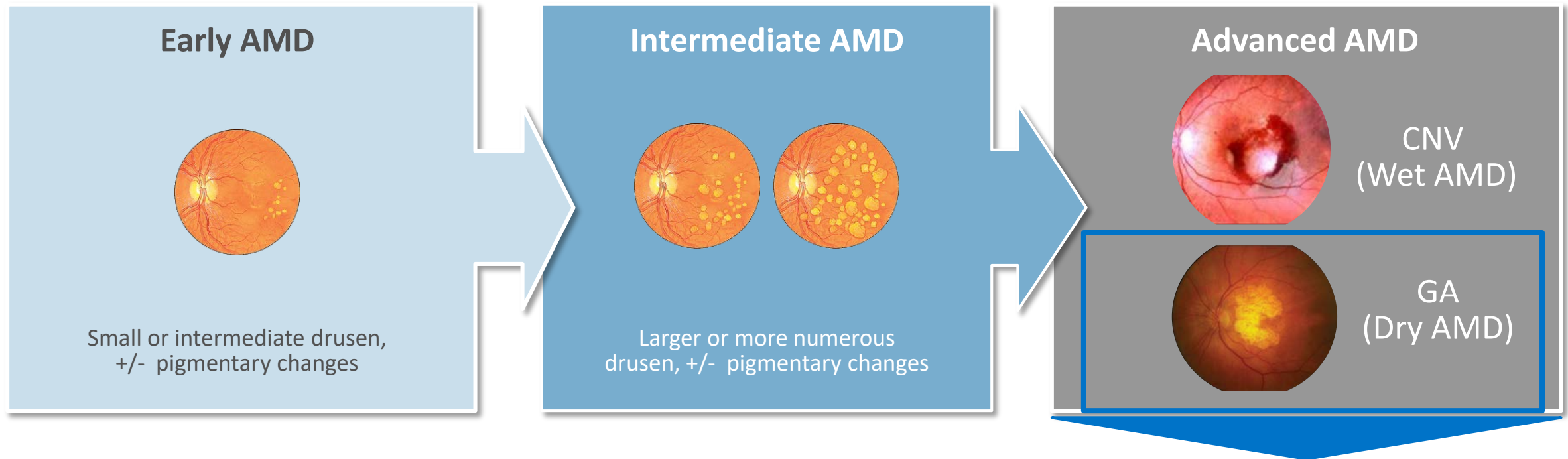
# Beyond NASH, an Expansive Pipeline in Other Indications

6  
Development  
Programs

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<b>NGM120</b>	GFRAL Antagonistic Antibody (Long Acting)	Cancer, Cancer Anorexia/Cachexia Syndrome (CACS)	Phase 1a/1b		Option
<b>NGM217</b>	Undisclosed (Long Acting)	Diabetes	Phase 1		Option
<b>NGM621</b>	Complement C3 Inhibitory Antibody (Long Acting)	Dry AMD / Geographic Atrophy	Phase 1		Option
<b>NGM395</b>	GDF15 Analog (Long Acting)	Metabolic	Preclinical		Wholly-Owned



# Geographic Atrophy (GA) is an Advanced Form of AMD

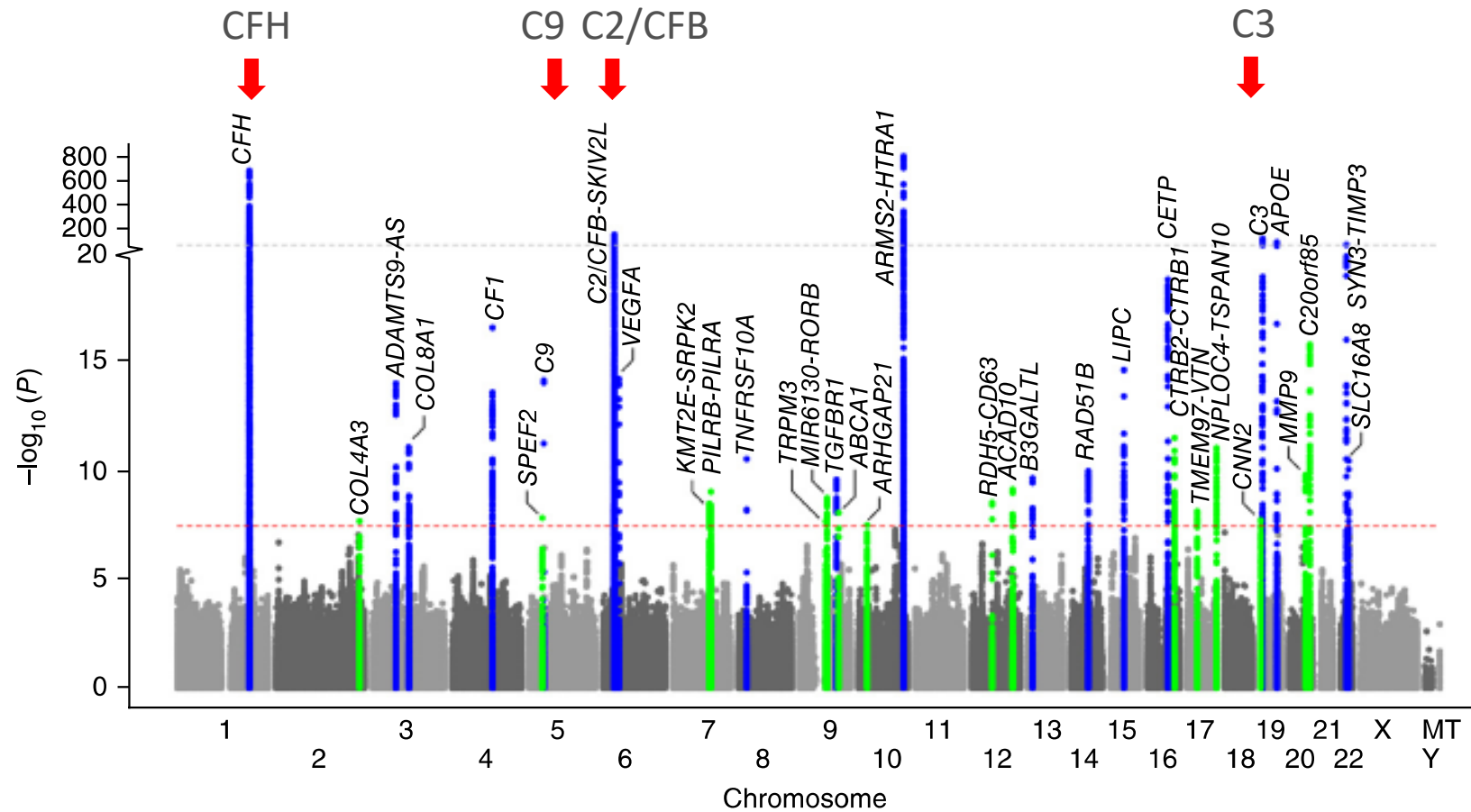


- Geographic atrophy (GA) is the dry form of advanced AMD, characterized by progressive and irreversible loss of photoreceptors, retinal pigment epithelium (RPE) and choriocapillaris
- GA is typically bilateral and lesion enlargement results into irreversible blindness
- GA affects ~5 million people globally and ~ 1 million people in the US
- Currently no approved treatment for GA

CNV = choroidal neovascularization

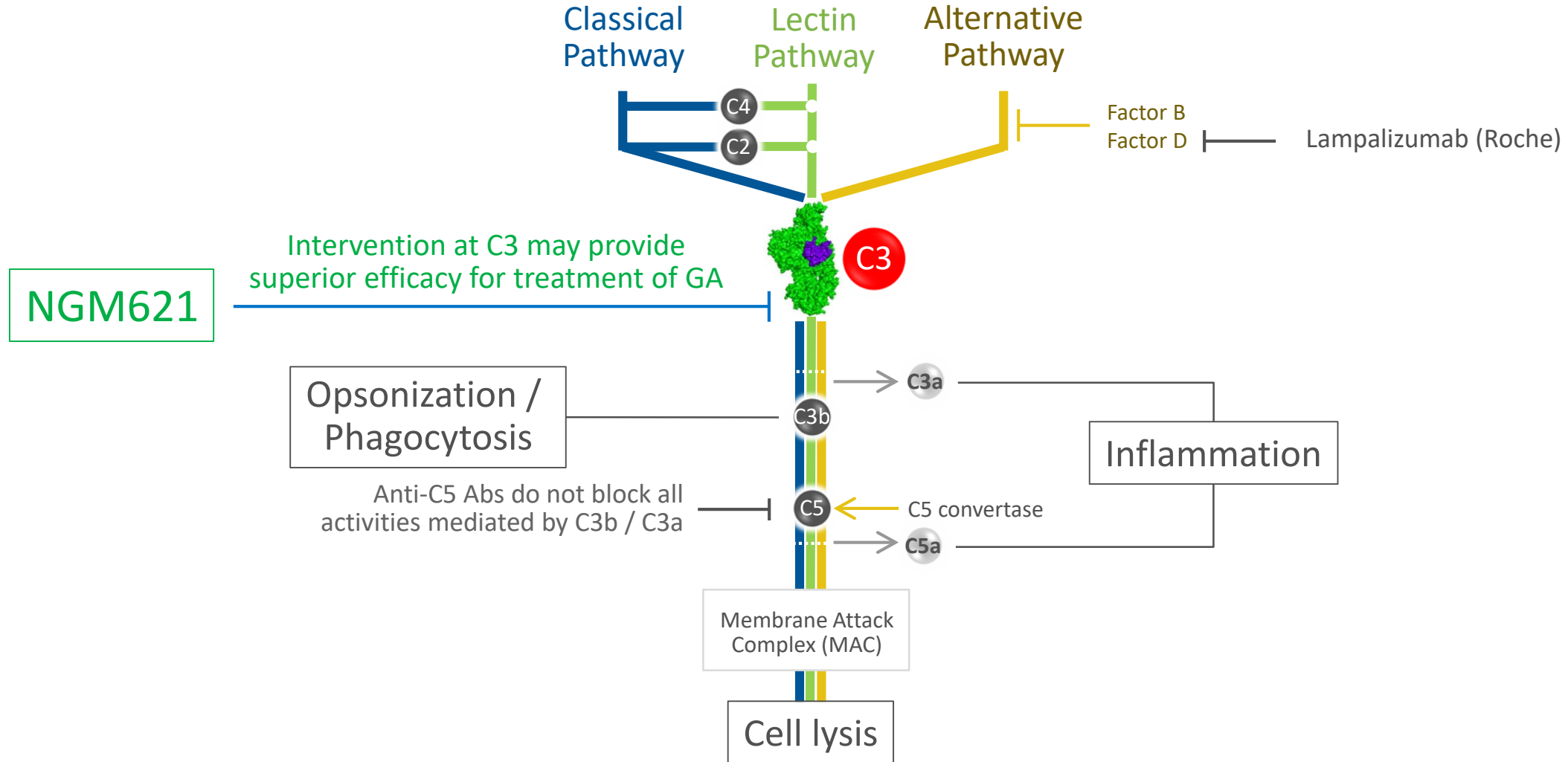
Fleckenstein et al, *Ophthalmology* 2018, 125(3): 369-390; Friedman et al, *Arch Ophthalmol.* 2004, 122: 564-572

# Complement Activation is Associated with Development of Advanced AMD

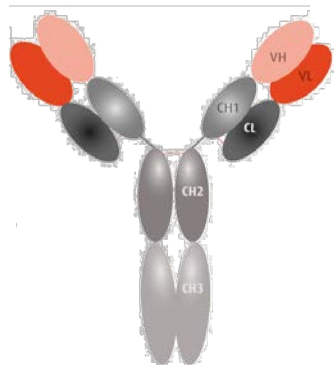


Variants in the complement pathway account for the majority of the known genetic risk for AMD

# NGM621 Targets Complement C3, Blocking All Three Pathways of Complement Activation

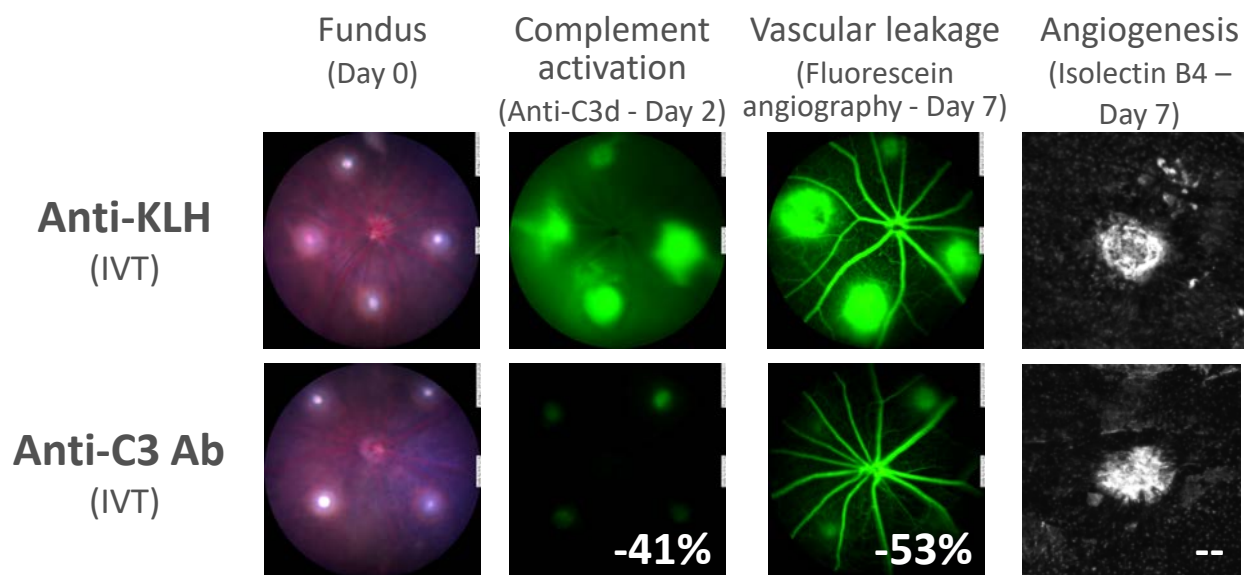


# NGM621: A Potent Anti-Complement C3 Antibody

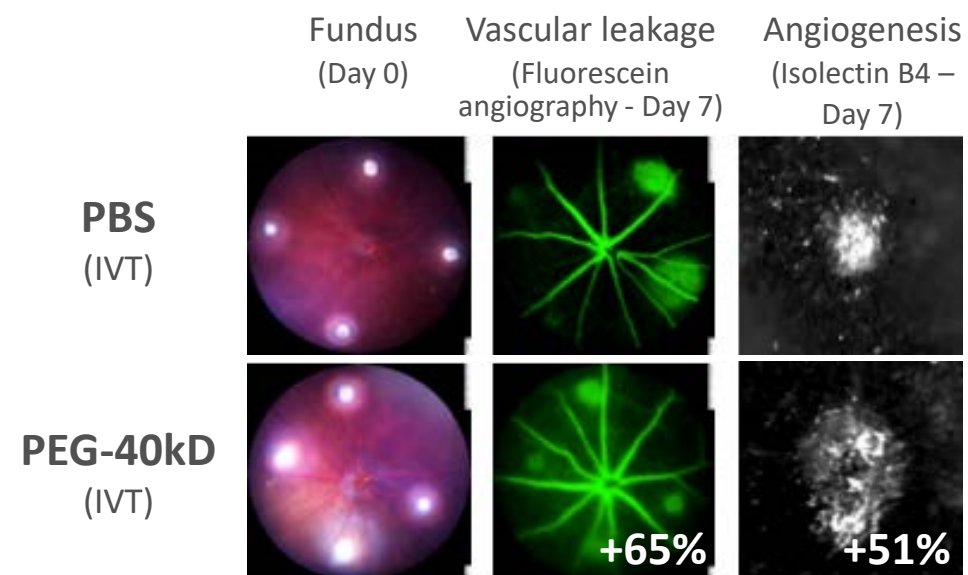


- Antibody that has high binding affinity for human C3 ( $K_D < 1$  nM)
- Potent inhibition of both classical and alternative pathways of complement activation ( $IC_{50} \sim 5-6$  nM)
- Potential for QM (monthly) or Q2M (EOM) intravitreal dosing

## Anti-C3 Ab reduces vascular leakage in laser injury-induced CNV in mice



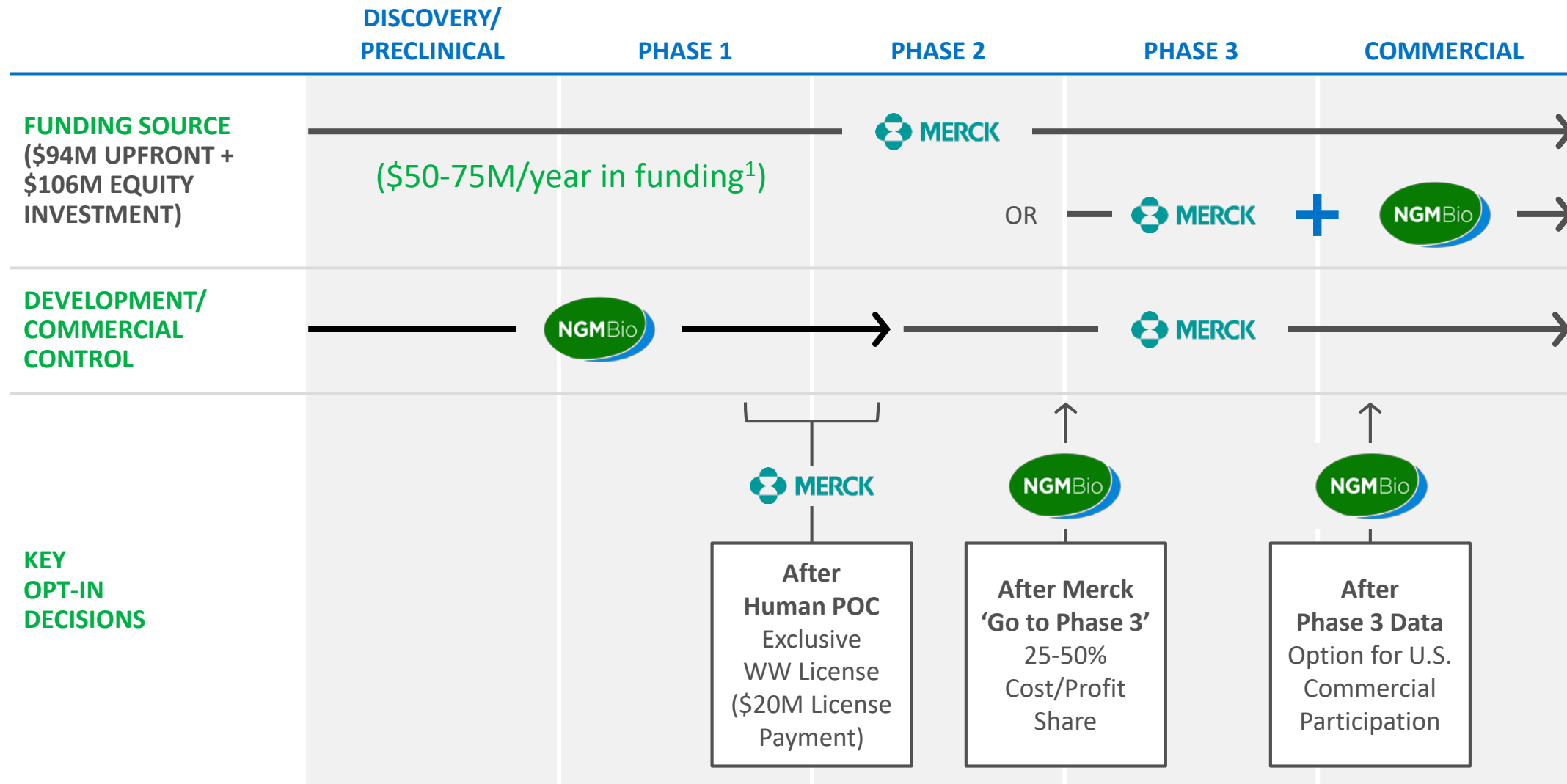
## Antibody is preferred modality; PEG-40kD exacerbates laser injury-induced CNV in mice



# NGM621 Development

- Initiated Phase 1 open-label single dose and multiple dose study in patients with GA
- Primary objective to evaluate the safety, tolerability and pharmacokinetics of intravitreal injection(s) of single and multiple doses of NGM621
  - Estimated enrollment of ~24 patients with GA secondary to AMD
- Study enables a potential Phase 2 POC study in GA
- Favorable tolerability profile observed from 5W GLP toxicology study in monkey
- Program is subject to Merck option to license the program

# Our Merck Collaboration: Growth-Accelerating Partnership



<sup>1</sup> Merck has committed to provide R&D reimbursement of up to \$50 million per year. If our R&D expenses exceed \$50 million in a given year, Merck can either reimburse up to an additional \$25 million for use in funding IND-enabling or later-staged activities or provide us with the equivalent value in in-kind services for such activities.




# 3Q19 Financial Results<sup>1</sup>

STATEMENT OF OPERATIONS (In thousands, unaudited)	THREE MONTHS ENDED SEP 30, 2019	NINE MONTHS ENDED SEP 30, 2019
RELATED PARTY REVENUE	\$21,568	\$72,461
RESEARCH AND DEVELOPMENT EXPENSES	\$28,953	\$87,299
GENERAL AND ADMINISTRATIVE EXPENSES	\$5,612	\$17,208
TOTAL OPERATING EXPENSES	\$34,565	\$104,507
LOSS FROM OPERATIONS	(\$10,917)	(\$26,854)
BALANCE SHEET	SEP 30, 2019 (unaudited)	DEC 31, 2018 (audited)
CASH, CASH EQUIVALENTS AND SHORT-TERM MARKETABLE SECURITIES	\$356.6M	\$206.6M

<sup>1</sup> See the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2019 for more complete financial information

## Multiple Potential Value-Driving Catalysts in 2020

Product Candidate	Potential Indications	Targeted 2020 Milestones	Targeted Timing
<b>ALDAFERMIN</b>	NASH F2/F3	Phase 2 Cohort 4 biopsy data	1Q20 
<b>ALDAFERMIN</b>	NASH F4	ALPINE 4 FPI	1H20
<b>ALDAFERMIN</b>	NASH F2/F3	ALPINE 2/3 topline data	1H21
<b>NGM313 (MK-3655)</b>	NASH F2/F3	Phase 2b FPI (Merck)	2H20
<b>NGM120</b>	Cancer/CACS	Phase 1a/1b FPI	1Q20 
<b>NGM217</b>	Diabetes	Phase 1b/2a FPI	2H20
<b>NGM621</b>	Dry AMD/GA	Phase 1 safety & tolerability data	2H20
<b>NGM621</b>	Dry AMD/GA	Phase 2 FPI	2H20
<b>NGM395</b>	Metabolic	Phase 1 FPI	1H20

NASDAQ: NGM

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Powerful Medicines.  
Transformative Impact.**