

CORPORATE PRESENTATION

August 2020



FORWARD-LOOKING STATEMENTS

Safe-Harbor Statement

This presentation has been prepared by Altimmune, Inc. ("we," "us," "our," "Altimmune" or the "Company") and is made for informational purposes only and does not constitute an offer to sell or a solicitation of an offer to buy securities, nor shall there be any sale of any securities in any state or jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or gualification under the securities laws of any such state or jurisdiction. The information set forth herein does not purport to be complete or to contain all of the information you may desire. Statements contained herein are made as of the date of this presentation unless stated otherwise, and neither this presentation, nor any sale of securities, shall under any circumstances create an implication that the information contained herein is correct as of any time after such date or that information will be updated or revised to reflect information that subsequently becomes available or changes occurring after the date hereof. Any statements made in this presentation relating to future financial or business performance, conditions, plans, prospects, trends, or strategies and other financial and business matters, including without limitation, the prospects for commercializing or selling any product or drug candidates, are forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. In addition, when or if used in this presentation, the words "may," "could," "should," "anticipate," "believe," "estimate," "expect," "intend," "plan," "predict" and similar expressions and their variants, as they relate to the Company may identify forwardlooking statements. The Company cautions that these forward-looking statements are subject to numerous assumptions, risks, and uncertainties, which change over time. Important factors that may cause actual results to differ materially from the results discussed in the forward looking statements or historical experience include risks and uncertainties, including risks relating to: our lack of financial resources and access to capital; clinical trials and the commercialization of proposed product candidates (such as marketing, regulatory, product liability, supply, competition, dependence on third parties and other risks); the regulatory approval process; dependence on intellectual property; the Company's BARDA contract and other government programs, reimbursement and regulation. Further information on the factors and risks that could affect the Company's business, financial conditions and results of operations are contained in the Company's filings with the U.S. Securities and Exchange Commission, including under the heading "Risk Factors" in the Company's annual reports on Form 10-K and quarterly reports on Form 10-Q filed with the SEC, which are available at www.sec.gov. The statements made herein speak only as of the date stated herein, and any forward-looking statements contained herein are based on assumptions that the Company believes to be reasonable as of this date. The Company undertakes no obligation to update these statements as result of new information or future events.

INVESTMENT HIGHLIGHTS



Proprietary intranasal vaccine platform ideally suited for rapid response to pandemic situations, including COVID-19



Developing next generation peptide therapeutics for liver disease Near-term value-driving catalysts with sufficient cash and investments on

hand



STRONG EXECUTIVE MANAGEMENT TEAM



Vipin K. Garg, PhD President & CEO



Will Brown, CPA, MBA Chief Financial Officer



Scott Harris, MD Chief Medical Officer



Scot Roberts, PhD Chief Scientific Officer



Bertrand Georges, PhD Chief Technology Officer



José Ochoa, JD Chief Business Officer



ADVANCING STRONG DEVELOPMENT PIPELINE

PROGRAM	PRODUCT NAME	PRECLINICAL PHASE 1	PHASE II PHASE III	STATUS
INTRANASAL VACCINES	AdCOVID™	COVID-19		Phase 1 trial initiation targeted for Q4 2020
	NasoShield™	Anthrax	Funded by BARDA \$133.7M Potential Value	In Phase 1b, data targeted 2H 2020
	NasoVAX™	Seasonal & Pandemic Influenz	a	Ready for Phase 2b
INTRANASAL THERAPEUTIC	T-COVID™	COVID-19	Phase 1/2 Trial Funded by DoD	Phase 1/2 trial initiation targeted for Q3 2020
LIVER DISEASES	ALT-801	NASH		Advancing into Phase 1 development in 2020
	HepTcell™	Chronic Hepatitis B		Advancing into Phase 2 development in 2020



FINANCIAL HIGHLIGHTS

ALTIMMUNE IS WELL POSITIONED TO ADVANCE MULTIPLE PRODUCT CANDIDATES

APPROXIMATELY \$214 MILLION CASH & INVESTMENTS ON HAND at July 31, 2020 32.9 MILLION SHARES OUTSTANDING and 3.4 million warrants and options for 36.3 million shares on a fully diluted basis

R&D FOCUSED 31 employees with 19 primarily engaged in research and development

(\$)

STRONG INTELLECTUAL PROPERTY PORTFOLIO

SIGNIFICANT PATENT TERM REMAINING IN ALL FAMILIES

AdCOVID	Issued claims in EP, Prioritized review of pending US claims
NasoShield	Granted US, EP, JP patent Expiry ≥ 2032
NasoVAX	Granted US, EP, JP patent Patent applications other territories Expiry \geq 2032
T-COVID	Prioritized review of pending US claims
ALT-801	2 Granted US patents Patent applications other territories Expiry \geq 2035
HepTcell	Granted US patent Patent applications other territories Expiry \geq 2033

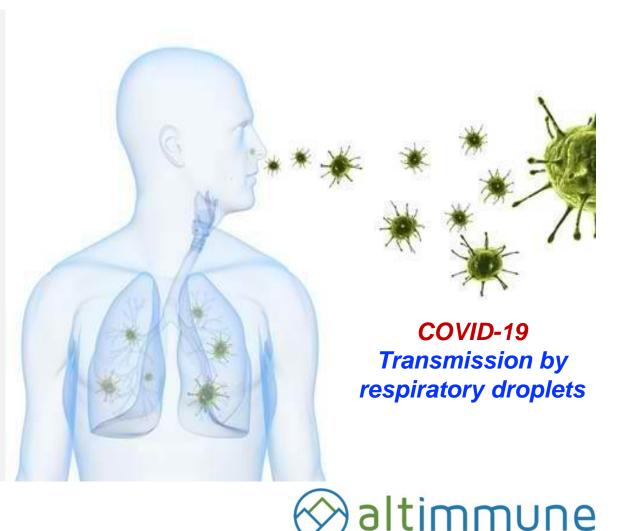




INTRANASAL VACCINES

IMPORTANT CONSIDERATIONS FOR AN IDEAL COVID-19 VACCINE

- Broad protection required: vaccine should activate multiple arms of immune system
- Initial infection occurs through nasal/oral airways: *intranasal vaccination provides nasal mucosal immunity, a first line of defense to respiratory infection*
- Suitability for global vaccine distribution: single dose, easily administered, no cold chain requirements



AdcovidTM: Single-dose intranasal vaccine for covid-19 ideally suited for pandemic respiratory virus

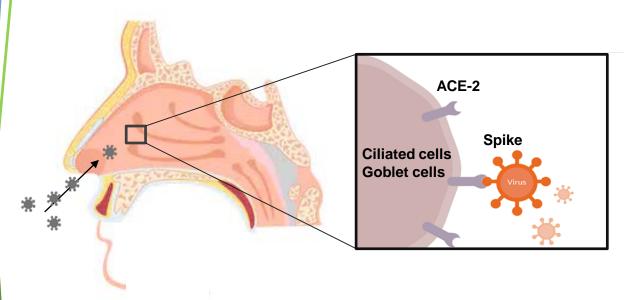
Intranasal COVID-19 Vaccine Designed for:

- Seroprotection with single intranasal dose
- Stimulation of <u>multiple arms</u> of the body's natural immune responses
- <u>Excellent stability</u> profile shown in Altimmune's intranasal platform vaccines
- <u>Safety profile indistinguishable from placebo</u> in Altimmune's clinically tested platform vaccines





NASAL MUCOSAL IMMUNITY HAS POTENTIAL TO PROTECT AGAINST COVID-19 TREATMENT AT SITE OF VIRAL ENTRY, REPLICATION AND TRANSMISSION



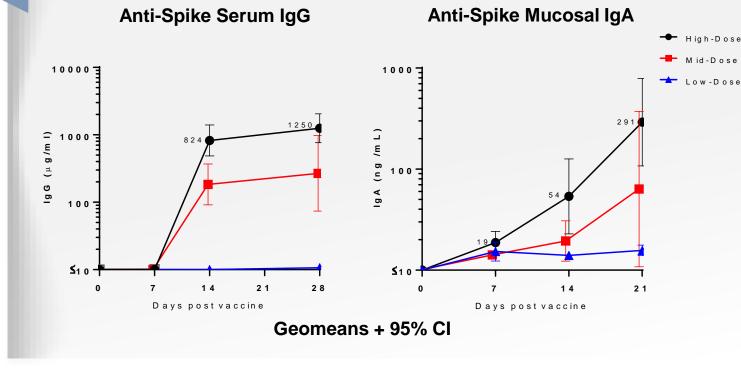
- ¹ N van Doremalen et al.
- ² Gould VMW, Front Microbiol. May 2017| Volume 8 | Article 900

- A specialized immunity at the boundary of the environment and the host including the respiratory tract
- Requires intranasal dosing to be stimulated in the nose, lungs and airways
- In non-human primates, intramuscular vaccination decreased SARS-CoV-2 in lungs but had no effect on infection in the nasal cavity¹
- Nasal mucosal immunity affords protection at the site of viral entry and early replication and blocks transmission by shed virus²



AdCOVID: STIMULATION OF BOTH SERUM AND MUCOSAL ANTIBODY IN MICE

Potent Antibody Responses in Serum and Respiratory Tract



Single intranasal dose of AdCOVID

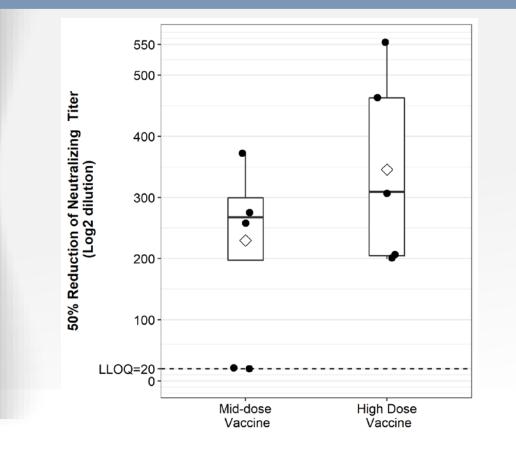
Anti-Spike IgG over 800 μg/mL IgG in serum by Day 14

29-fold induction of mucosal IgA in the respiratory tract by Day 21



AdCOVID: STRONG NEUTRALIZING ANTIBODY RESPONSE

Neutralizing Antibody Response in Serum



Single intranasal dose of AdCOVID

Geometric mean titer of 1:320 by Day 28 (Day 14 not measured)

Response is two times higher than FDA recommends for donor convalescent plasma used to treat severe COVID-19 patients



AdCOVID: COMPELLING PRECLINICAL DATA

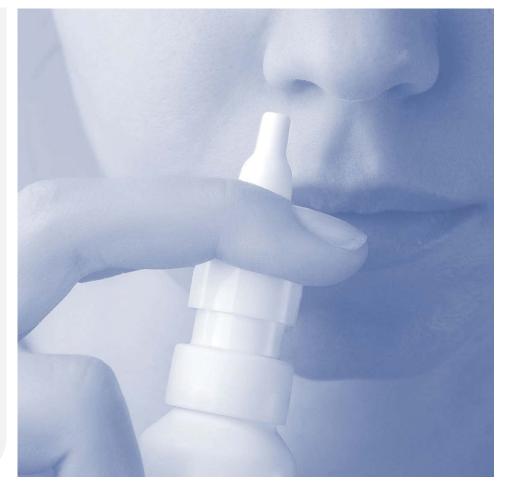
- Strong induction of <u>both</u> serum neutralizing antibody and mucosal IgA responses
 - Neutralizing response twice FDA recommended level for treatment with serum
 - Mucosal IgA response well above levels normally associated with protection
- Rapid recruitment of immune cells into respiratory tract and draining lymph nodes consistent with induction of mucosal and systemic immunity
 - CD8+ T cells, CD4+ T cell, dendritic cells and NK cells in the mucosal environment indicative of a local cell-mediated immune response.
 - Follicular T helper (Tfh) cells, Germinal Center B cells and memory B cells in the draining lymph nodes and spleen, cell types associated with long-lived antibody responses



NasoVAX CLINICAL DATA VALIDATES AdCOVID'S POTENTIAL

NasoVAX Intranasal Influenza Vaccine Phase 2 Clinical Results

- 100% seroprotection after a single dose
- Neutralizing antibody response equal to Fluzone® commercial influenza vaccine
- Stimulated nasal mucosal and cellular immune responses
- Durable response lasted at least one year after single dose vaccination
- Safety profile indistinguishable from placebo





WHO COVID-19 VACCINE TARGET PRODUCT PROFILE ALTIMMUNE VACCINE PLATFORM MEETS PREFERRED ATTRIBUTES

Preferred Attribute ¹	Altimmune Influenza Vaccine Data	
Single dose	Seroprotection with single dose administration	
Rapid onset of protection	Strong serological response at 2 weeks	
Immunity lasting at least 1 year	Serological response unchanged at 400 days	
Non-injected	Intranasal administration	
Temperature stability	At least 3 months at 25° C in a liquid formulation	
Ability to provide at low cost	High yield, scalable manufacturing process	

https://www.who.int/blueprint/priority-diseases/key-action/WHO_Target_Product_Profiles_for_COVID-19_web.pdf



AdCOVID: COMPELLING BENEFITS COMPARED TO OTHER VACCINE CANDIDATES PLATFORM CHARACTERISTICS AND PRACTICAL CONSIDERATIONS

Factor	RNA	DNA	Protein	AdCOVID
Number of Doses	2	2	2	1
Route of Administration	Injection	Injection	Injection	Nasal Spray
Neutralizing antibody / T cells	Yes	Yes	Yes	Yes
Nasal Mucosal Immunity	No	No	No	Yes
Ease of Administration	++	+	++	++++
Other Components Required	No	Yes	Yes	No



AdCOVIDTM: DEVELOPMENT STATUS RAPID RESPONSE TO THE COVID-19 PANDEMIC

Activity	Completion
Design and Engineering of Vaccine Candidates	Complete
Preclinical Testing and Down Selection of Candidate	Expected July 2020
Toxicology	Not Required
GMP Manufacturing	Expected Q3/4 2020
Phase 1 Initiation	Expected Q4 2020



NasoShield: FUNDED THROUGH A DEVELOPMENT CONTRACT WITH BARDA

Phase 1b initiated, data expected in H2 2020



Received \$3.7M BARDA funding to initiate Phase 1b

\$133.7M total contract value through Phase 2

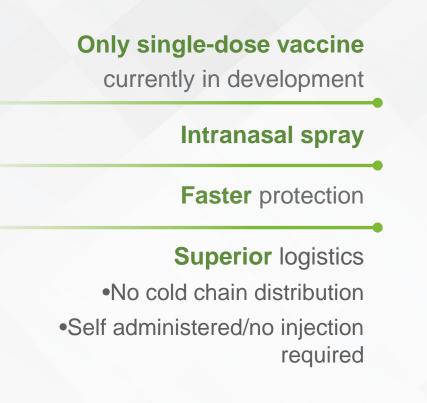
Stockpiling of vaccine may occur prior to licensure¹

 Nuthrax[®] initial stockpiling valued at \$261M with a \$1.6 billion total potential contract value



¹ https://globalbiodefense.com/2019/08/01/barda-exercises-first-option-intransition-from-biothrax-to-av7909-anthrax-vaccine/

DIFFERENTIATED



NasoShield Differentiated Anthrax Vaccine

COMPETITION

Biothrax[®] - Only approved vaccine

- 3 dose regimen
- Requires an adjuvant
- Subcutaneous injections

NuThrax[®] (AV7909) – Phase 3

- 2 dose regimen
- Requires 2 adjuvants
- Intramuscular injections



INTRANASAL THERAPEUTIC

T-COVIDTM: MODULATES INNATE IMMUNITY IN ANIMAL MODELS PRECLINICAL STUDIES FUNDED BY NIAID & CONDUCTED AT UTAH STATE UNIVERSITY

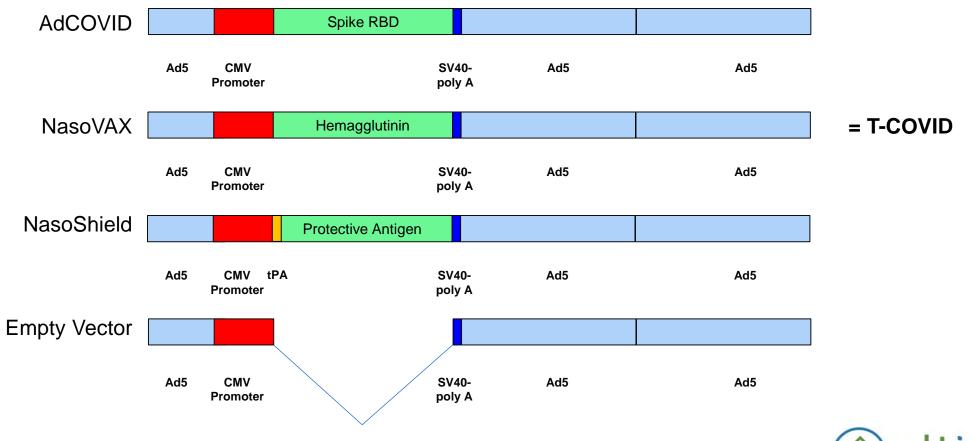


Data from 6 preclinical studies of influenza infection funded by NIAID and conducted at Utah State University showed:

- Rapid, <u>non-antigen mediated</u> modification of host cytokine response
- Protection from lethal challenge occurs within days and lasts for weeks
- <u>Significantly decreased inflammation</u> following respiratory virus infection



T-COVIDTM: BASED ON RD-Ad5 VECTOR VACCINE PLATFORM SINGLE DOSE INTRANASAL THERAPEUTIC FOR THE TREATMENT OF EARLY COVID-19





PHASE 1/2 CLINICAL TRIAL DESIGN

- 96 community-based patients with fever, cough, or shortness of breath, with onset of symptoms within 48 hours, and a diagnosis of COVID-19 within 24 hours, will be randomized 1:1 to NasoVAX or placebo administered as a single 0.5 mL nasal spray on the day of diagnosis
- The study will consist of 3 cohorts of increasing age and risk for complications of COVID-19
- Primary efficacy endpoint
 - Proportion of patients with clinical worsening, defined as a 4% decrease in pulse oxygen saturation (SpO₂), or hospitalization
- Secondary endpoints
 - Average decrease in resting SpO₂
 - Average increase in resting pulse rate
 - Proportion of patients requiring oxygen supplementation and mechanical ventilation
- FDA agreed to allow Altimmune use its existing lot of RD-Ad5-based NasoVAX influenza vaccine for this trial so that it may be initiated quickly

 Opaltimmune



LIVER DISEASE

NASH AND NAFLD

HEPATIC MANIFESTATIONS OF OBESITY AND METABOLIC SYNDROME

- NAFLD is present in up to 90% of obese patients, and ~20% of NAFLD patients progress to NASH¹
- Up to 40% of NASH patients develop NAFLD recurrence one year after liver transplant—we believe the underlying metabolic disease is still present²
- The treatment of obesity is the cornerstone of treating NASH and the principal morbidities of NASH^{1,3}
- Drugs in development should target the weight loss range achieved by bariatric surgery⁴

¹Glass LM, Fed Pract 2019; ²Dureja, P, Transplantation 2011; ³Perazzo H, Liver Int 2017; ⁴Armstrong M, Vantage December 14, 2018



ALT-801: GLP-1/GLUCAGON RECEPTOR DUAL AGONIST OPTIMIZED FOR NASH AND WEIGHT LOSS

DESIGNED FOR GLUCAGON GLP-1 SIGNIFICANT **REDUCTIONS IN** energy expenditure blood glucose body weight adipose browning appetite lipolysis/ inflammation liver fat, inflammation gluconeogenesis and resulting fibrosis mobilization of liver fat blood glucose Indirect effects Direct effects on on liver liver



ALT-801: RATIONALLY DESIGNED AND HIGHLY DIFFERENTIATED

PROPRIETARY EuPort[™] DOMAIN PROVIDES PROLONGED SERUM HALF-LIFE AND REDUCED PEAK CONCENTRATION





¹Guarracino DA et al., Chem Rev. 2019 Sep 11;119(17):9915-9949

ALT-801 SUMMARY OF PRECLINICAL STUDIES

- ALT-801 preclinical results in diet induced obesity models showed superior reductions in nearly all measured NASH parameters compared to semaglutide or elafibranor, returning many parameters to lean normal range:
 - Body and liver weight
 - NAS and ALT
 - Collagen (COL1A1 and galectin-3) content
 - Liver fat, cholesterol and triglycerides
- ALT-801 improved metabolic function and exhibited pleiotropic effects in preclinical testing across multiple pathways involved in NASH
- ALT-801 resulted in more profound suppression of genes associated with steatosis, inflammation and stellate cell fibrosis by RNA sequencing compared to elafibranor



ALT-801 PROJECTED PHASE 1 CLINICAL TIMELINE

Phase 1 Summary

- 1. SAD in Australia: ~50 patients
- 2. 6-week MAD in Australia: ~60 patients
- 3. 12-week parallel-dose in US: ~100 patients

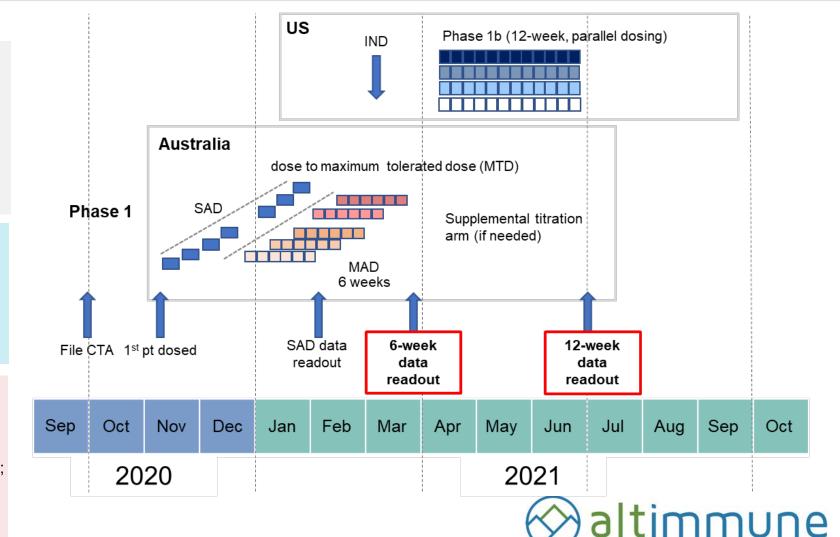
Patient population: Overweight and obese <u>non</u>-diabetics

Endpoints in 6-week study

- Safety, tolerability
- Pharmacokinetics (PK)
- Preliminary read out on weight loss, resting energy expenditure (REE), and liver fat
- Glucose homeostasis

Endpoints in 12-week study

- Safety, tolerability
- PK
- Weight loss
- Liver Fat by MRI-PDFF; lean body mass;
- Non-invasive fibrosis markers
- REE and respiratory quotient (Rq), lipids
- Glucose homeostasis



HepTcell: T CELL STIMULANT THERAPEUTIC FOR CHRONIC HEPATITIS B SIGNIFICANT OPPORTUNITY TO IMPROVE CURRENT HBV CURE RATES





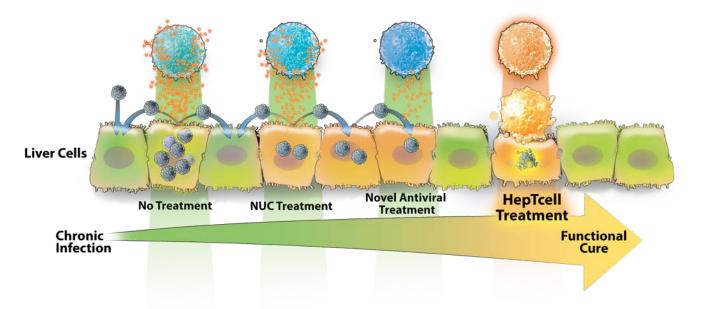
CURRENTLY APPROVED HBV THERAPEUTICS DO NOT LEAD TO A CURE IMMUNE ACTIVATION WILL BE REQUIRED FOR SIGNIFICANT IMPACT

Current antivirals prevent disease progression but rarely clear chronic infection

Breaking T cell immune tolerance is key to functional cure

Newer direct-acting antivirals **unlikely to result in immune reactivation alone**

HepTcell is designed to "wake up" dormant T-cells to eliminate infection

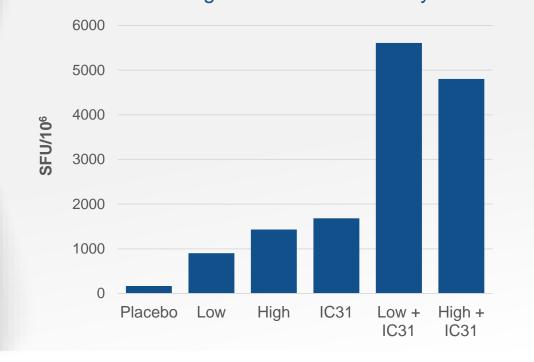




HepTcell: PHASE 1 SAFETY AND IMMUNOGENICITY STUDY

Anti-HBV T-cell Response After 3 Injections

IFNγ **ELISpot** Median Change from Baseline to Day 85



HepTcell breaks immune tolerance in chronic hepatitis B patients

T cell responses strongest when combined with IC31[™] adjuvant

HepTcell dose and use of adjuvant confirmed for Phase 2 studies



DEVELOPMENT PLAN

DIFFERENTIATED

Designed to **restore immune control of infection** instead of targeting viral pathway

Targets all HBV genotypes

Complementary to currently approved antivirals and other products in development

Phase 1 data in chronically infected population **documented HBV T cell stimulation** HepTcell Specific Immunotherapy for Chronic HBV Submitted IND in Q2 2020

Phase 2 program in **expanded chronic HBV patient population**

Exploit immune activation of HepTcell in combination with other novel HBV therapeutics

Seek commercial partner with complementary therapeutic product

INVESTMENT HIGHLIGHTS



Proprietary intranasal vaccine platform ideally suited for rapid response to pandemic situations, including COVID-19



Developing next generation peptide therapeutics for liver disease

Near-term value-driving catalysts with sufficient cash and investments on hand



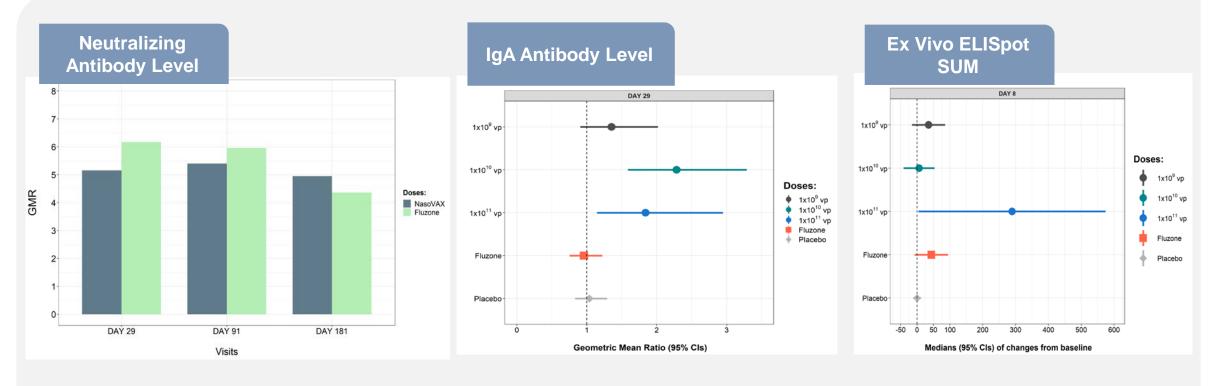






APPENDIX

COMPELLING CLINICAL EVIDENCE WITH ALTIMMUNE'S INFLUENZA VACCINE CANDIDATE – NasoVAX



Strong Antibody response

Strong mucosal IgA response

Strong T cell response



NasoVAX: HAI and Neutralizing Titers Similar to Fluzone

	Serum HA	I Geometric	Mean Titer	s – Day 29	
Vaccine	NasoVAX 10 ⁹ vp	NasoVAX 10 ¹⁰ vp	NasoVAX 10 ¹¹ vp	Placebo	Fluzone
GMT (95% CI)	87.2 (52.7, 144.3)	136.1 (81.7, 226.6)	164.0 (99.0, 271.6)	31.3 (18.9, 52.0)	277.7 (179.4, 429.9)

Serum Neutralizing Antibody Geometric Mean Titers – Day 29

Vaccine	NasoVAX 10 ⁹ vp	NasoVAX 10 ¹⁰ vp	NasoVAX 10 ¹¹ vp	Placebo	Fluzone
GMT (95% CI)	44.9 (21.8, 92.3)	113.1 (58.0, 220.8)	142.5 (93.6, 217.1)	17.8 (9.1, 35.0)	162.8 (95.8, 276.6)

Strong NasoVAX neutralizing antibody titer comparable to Fluzone



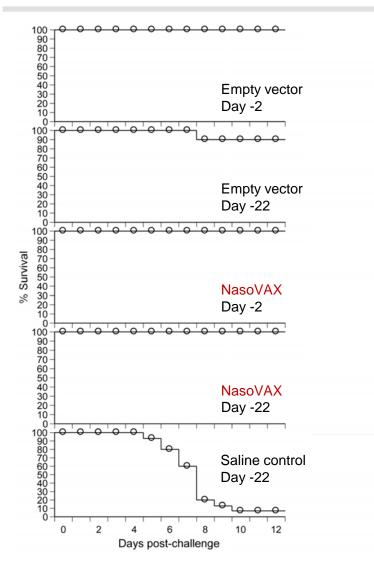
INTRANASAL AdCOVID IS NOT LIKE INTRANASAL FLUMIST® FLUMIST VERSUS REPLICATION-DEFICIENT Ad5 VECTOR

FluMist	Replication-deficient Ad5 Vector		
Attenuated influenza virus that requires replication for potency	Does not require replication for potency		
Activity blocked by pre-existing immunity to influenza	Activity not blocked by pre-existing immunity to Ad5		
Low vaccine dose (6 -7 logs)	High vaccine dose (9 -11 logs)		
Weak serum Ab response ¹	Strong serum Ab response		
Weak T cell response ¹	Strong T cell response		

¹ Hoft, et al., Clin Vaccine Immunol. 2017 Jan; 24(1) 1-9



T-COVID: PROTECTION ESTABLISHED IN ANIMALS WITHIN 2 DAYS EFFECTS SEEN WITH ADMINISTRATION OF EITHER EMPTY VECTOR OR NasoVAX



Experimental design

Day -2 or Day -22

 Intranasal administration (2.5 x10⁸ ifu) of either empty vector (vector without antigen) or NasoVAX (vector with antigen)

Day 0

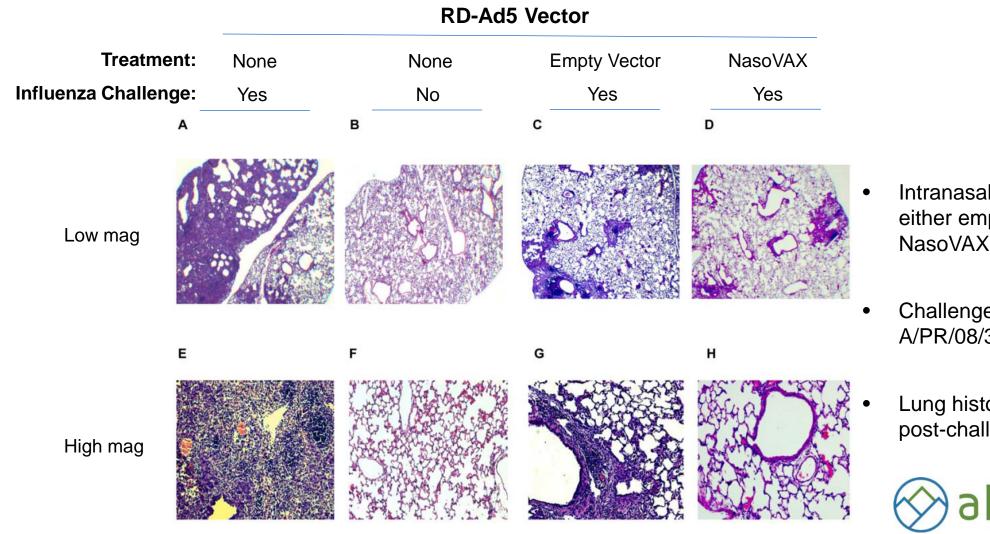
Challenge with influenza A/CA/04/2009 (3 x LD₅₀)

<u>Results</u>

- Protection provided by both empty vector and NasoVAX
- Protection occurred when treated between 2- and 22-days prior to challenge
- Identical results obtained following challenge with other influenza A strains, influenza B, H5N1 and H7N9



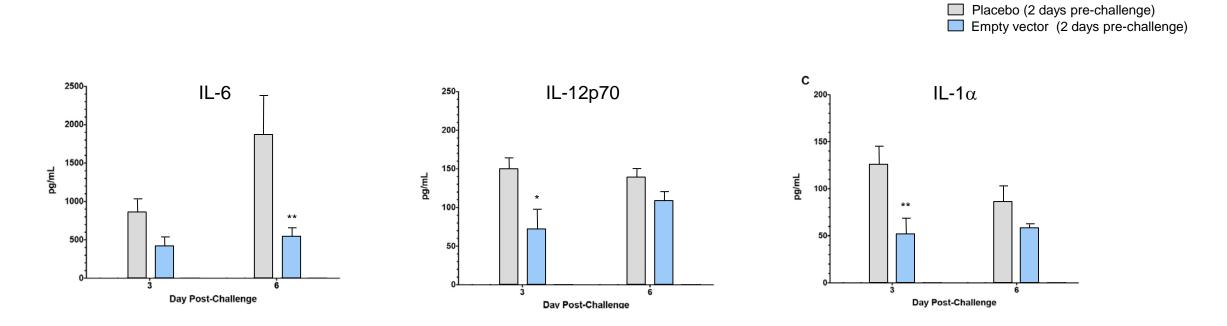
T-COVID: REDUCED INFLUENZA-INDUCED LUNG INFLAMMATION EFFECT SEEN WITH ADMINISTRATION OF EITHER EMPTY VECTOR OR NasoVAX



- Intranasal administration of either empty vector or NasoVAX on Day -2
- Challenge with influenza A/PR/08/34 (4 x LD₅₀) on Day 0
- Lung histology on Day +19 post-challenge



T-COVID: DECREASED INFLAMMATORY CYTOKINES IN LUNGS RD-Ad5 VECTORS MODULATE THE INNATE IMMUNE RESPONSE TO INFECTION



Balb/c mice administered an intranasal dose of RD-Ad5 (3.2 x 10⁸ ifu) on Day -2 and challenged with influenza A/CA/04/2009 (3 x LD₅₀) on Day 0. Cytokines in lung lavage were analyzed on Days 3 and 6; mean \pm SD, p \leq 0.05, ** p \leq 0.01 by ANOVA



T-COVID: TARGET PRODUCT PROFILE

Indications:

Prevention of clinical worsening and hospitalization of ambulatory patients with early COVID-19

Prevention of COVID-19 in individuals at high-risk of infection (known exposures)

Potential first-line community protection against future strains of coronavirus and other pandemics

Mode of administration:

Single dose, intranasal, with potential for self-administration

Storage and distribution:

Stable at ambient temperatures for 3 or more months

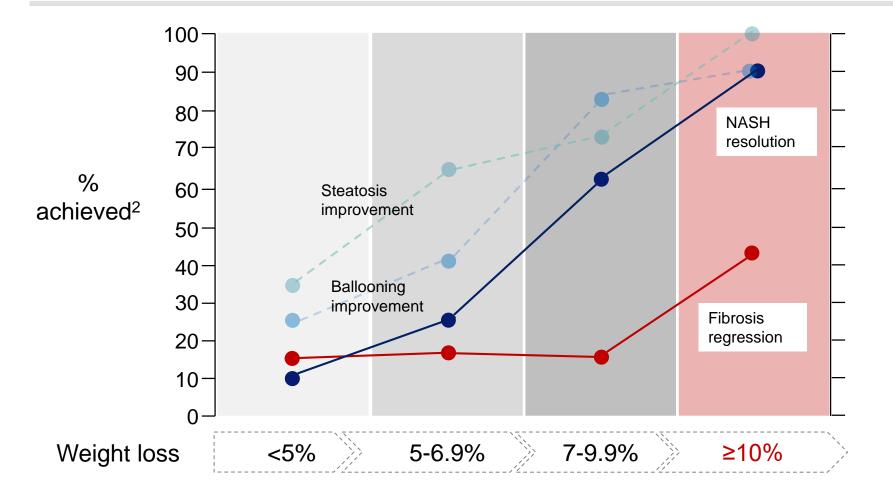
Safety profile:

Similar to placebo



SUBSTANTIAL BODY WEIGHT LOSS IS NECESSARY TO BLUNT NASH PROGRESSION

10% OR MORE WEIGHT LOSS MUST BE ACHIEVED¹



The treatment of obesity remains the cornerstone of NASH and NAFLD therapy

Meaningful weight loss is rarely achieved without medical intervention

Current drugs have failed to deliver the weight loss achieved by bariatric surgery



¹ Promrat et al Hepatology 2010; Glass et al Dig Dis Sci 2015; Vilar-Gomez et al Gastroenterology 2015; Marchesini et al Hepatology 2016; Koutowkidis et al JAMA Intern Med 2019

²Adapted from Harrison, EASL 2019, Traber, Discovery on Target: Targeting NASH 2019, and Vilar-Gomez, Gastroenterology 2015

SNAPSHOT OF COMPOUNDS IN ADVANCED NASH DEVELOPMENT MOST AGENTS FAIL TO ACHIEVE MEANINGFUL LEVELS OF WEIGHT LOSS

Agent	Author (year)	Mechanism	Weight Loss (%)
Obeticholic acid	Younossi, ZM 2019 ¹	FXR agonist	~2%
Resmetirom	Harrison, SA 2018 ²	THR β agonist	no change
Aldafermin (3mg) [†]	Harrison, SA 2019 ³	FGF19 agonist	1.3%
Pegbelfermin (10 mg) ^{††}	Sanyal, A 2018 ⁴	FGF21 agonist	2.2%
AKR-001 (70 mg)	Ritchie, M 2020 ⁵	FGF21 agonist	no change
Firsocostat	Lawitz, EJ 2018 ⁶	ACC inhibitor	no change
Elafibranor	Ratziu, V 2016 ⁷	PPARα/δ agonist	no change

[†] No information has been made public on 1mg dose

^{††} Gain of 0.6% on 20mg dose

¹Younossi, YM, et al. (2019) Lancet 394: 2184-96; ²Harrison, SA, et al. Lancet 394: 2012-24; ³ Harrison, SA, et al. (2019) Lancet 391:1174-85; ⁴Sanyal, A, et al. (2018) Lancet 392:2705-17; ⁵Ritchie, M, et al. (2020) Exp Opin Invest Drugs, 29:2, 197-204; ⁶ Lawitz, EJ, et al. (2018) Clin Gastroenterol Hepatol 16:1983-91; ⁷Ratziu, V, et al. (2016) Gastroenterol 150: 1147-59



ALT-801: BALANCED 1:1 GLP-1/ GLUCAGON AGONISM KEY TO ACHIEVING IMPROVED WEIGHT LOSS

- By activation of a 2nd mechanism, GLP-1/glucagon receptor dual agonists promote greater weight loss than GLP-1 agonists alone
- As demonstrated by ALT-801 in animal models, dual agonists have potential for greater weight loss with lower dose
- Sustained effects on both receptors are necessary to achieve improved weight loss
- Single receptor-biased ligands retain effects on only one receptor over a prolonged dosing period¹
- By achieving 1:1 balance, the synergies of GLP-1 and glucagon are maintained throughout the entire dosing period

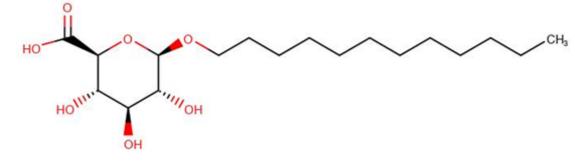


1 Day JA, et al. Peptide Science 2012;98:443-50

ALT-801: IMPROVED PK FOR BETTER GI TOLERABILITY

PROLONGED SERUM HALF-LIFE AND REDUCED PEAK CONCENTRATION MAY LEAD TO BETTER TOLERABILITY

 EuPort[™] domain has surfactant-like properties – containing a water-soluble portion and a fat-soluble portion:



- When conjugated to a small peptide the EuPort domain can:
 - Slow the entry of the peptide into the blood lowering the peak concentration (C_{max}) of the peptide for improved tolerability
 - Significantly extend the half-life (t_{1/2}) of the peptide from minutes to a week or more which has been shown to improve tolerability for GLP-1 receptor agonists¹



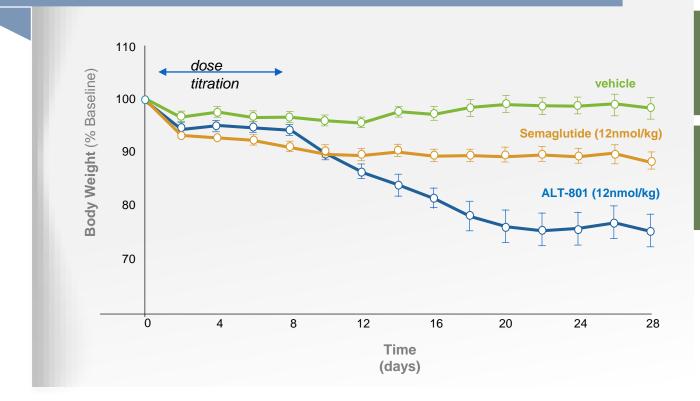
ALT-801: SUMMARY OF NON-CLINICAL STUDIES COMPLETED TO DATE THOROUGH INVESTIGATION OF COMPOUND CHARACTERISTICS

Species	Model	Treatment	Location	Results	Assessment
Mouse	Gubra DIO	12 weeks	Gubra (Denmark)	25% body weight loss 68% liver weight loss 74% decrease in fibrosis	ALT-801 returns animals to lean normal body/liver weight
Mouse	Diet Induced Obesity	4 weeks	The Jackson Laboratory (USA)	25% body weight loss	ALT-801 returns animals to lean normal body weight
Rat	Diet Induced Obesity	4 weeks	Charles River (USA)	40% body weight loss 52% liver weight loss	ALT-801 returns animals to lean normal body/liver weight
Mouse	Primary pharmacology	Single Dose	The Jackson Laboratory (USA)	Normalized glucose	ALT-801 more potent that semaglutide with prolonged gluco-regulatory effect
Mouse	РК	Single Dose	The Jackson Laboratory (USA)	ALT-801 later Tmax, lower Cmax vs semaglutide	More gradual PK for improved tolerability
Rat	PK	4 weeks	Charles River (USA)	Concentration still rising at 8hr	ALT-801 later Tmax, lower Cmax vs semaglutide
Minipig	РК	Single dose	Sinclair Research (USA)	T _{1/2} 52hr, MRT 86hr	ALT-801 T _{1/2} and MRT longer than literature standard (semaglutide) in minipigs
Human	Receptor activation	Cells in vitro	DiscoverX (USA)	GLP-1 EC ₅₀ 38pM Glucagon EC50 42pM	ALT-801 highly potent, evenly balanced dual agonist



ALT-801 25% REDUCTION IN BODY WEIGHT TO CHOW-FED LEAN NORMAL RANGE

Mouse DIO Model After 4 Weeks of Treatment

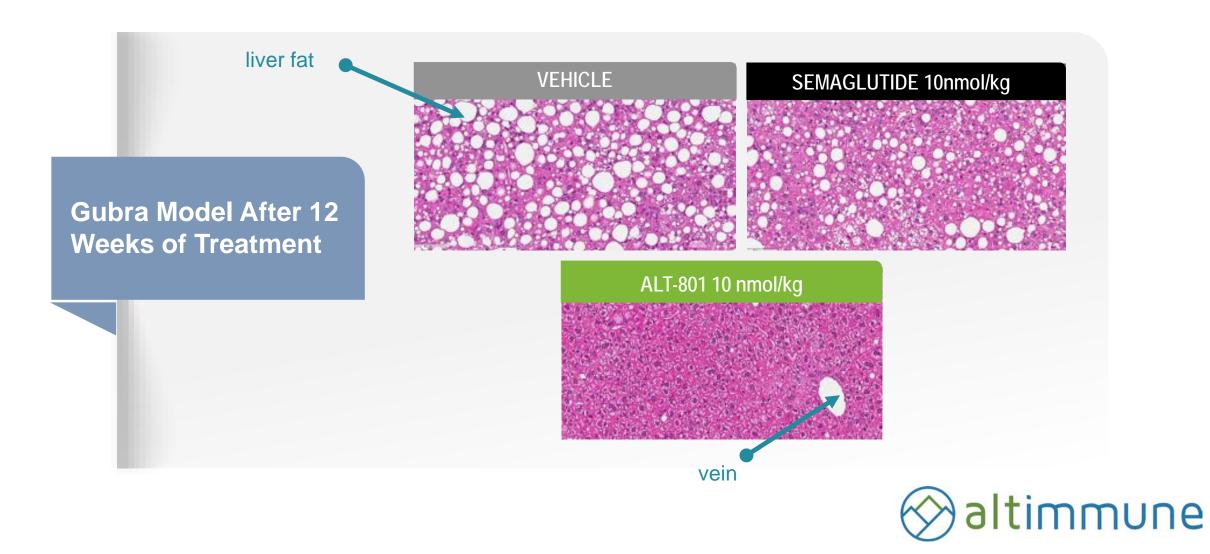


More than **2x** the weight loss of **semaglutide**

Body weight decreased to **lean normal range**



ALT-801 REDUCTION IN LIVER FAT AND LIVER WEIGHT TO LEAN NORMAL RANGE



ALT-801 IMPROVEMENT IN NAFLD ACTIVITY SCORE (NAS)

Treatment 30% 20% +6% 10% **Gubra NASH Mouse** 0% Change in NAS on Model After 12 Weeks -10% -18% -32% -20% of Treatment -30% -61% -40% -50% All animal -60% achieved NAS ≤ 3 ++++ -70% % semaglutide -80% vehicle 5nmol/kg 10nmol/kg 10nmol/kg **ALT-801**

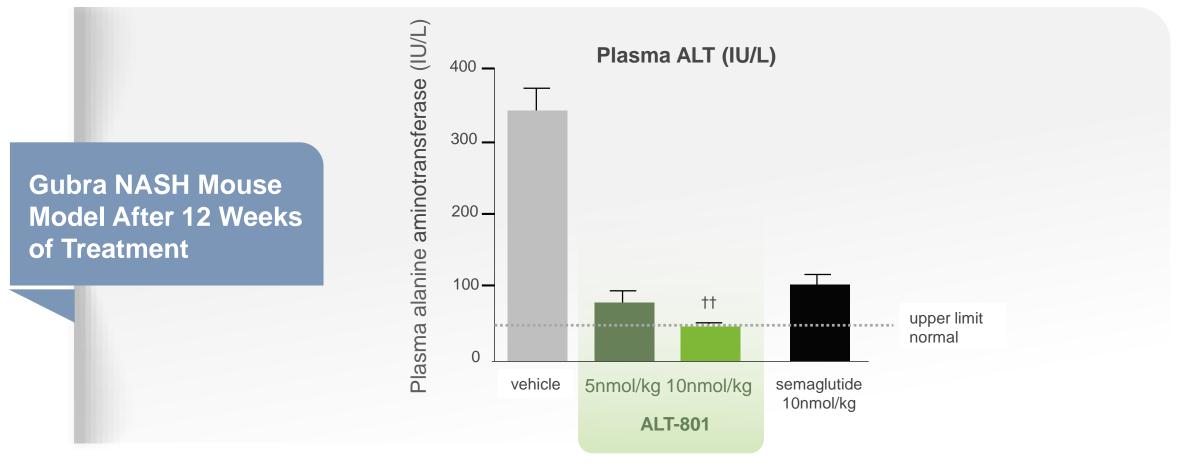
Change in NAFLD Activity Score (NAS)

Mean (SE), 1-way ANOVA with Dunnett's adjustment for multiplicity $\uparrow \uparrow p < .01$, $\uparrow \uparrow \uparrow p < .001$, $\uparrow \uparrow \uparrow \uparrow$, p < .0001 vs. semaglutide (n=11-12)



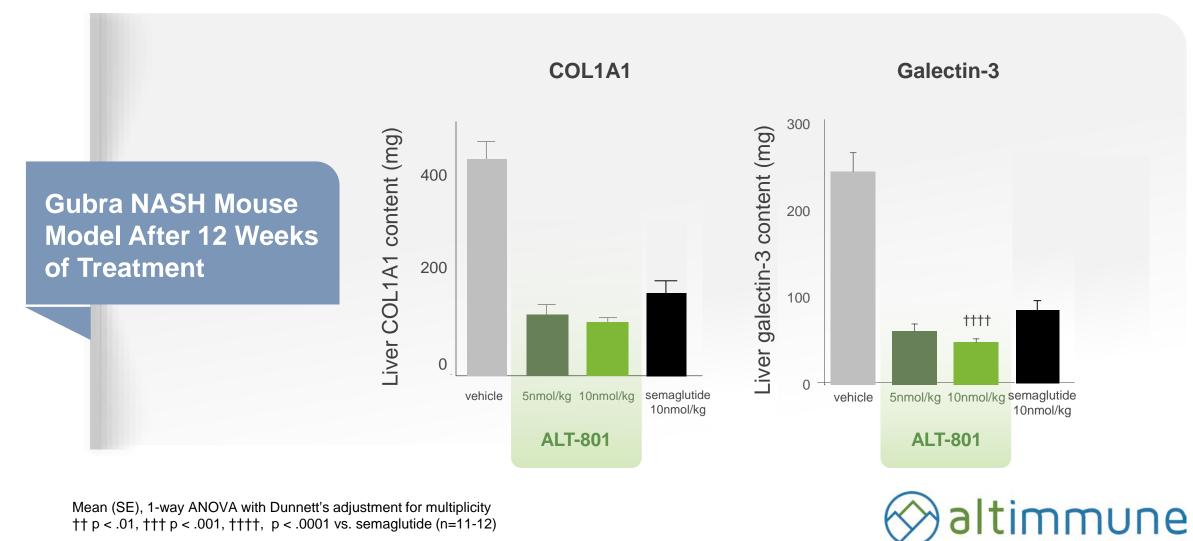
52

ALT-801 NORMALIZATION OF PLASMA ALT



Mean (SE), 1-way ANOVA with Dunnett's adjustment for multiplicity $\uparrow \uparrow p < .01$, $\uparrow \uparrow \uparrow p < .001$, $\uparrow \uparrow \uparrow \uparrow$, p < .0001 vs. semaglutide (n=11-12)

ALT-801 GREATER EFFECTS ON FIBROSIS



Mean (SE), 1-way ANOVA with Dunnett's adjustment for multiplicity tt p < .01, tt p < .001, tt t, p < .0001 vs. semaglutide (n=11-12)