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NASDAQ: ALT

CORPORATE PRESENTATION

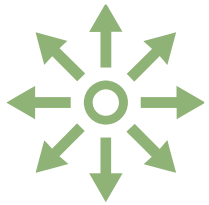
Q2 2021

FORWARD-LOOKING STATEMENTS

Safe-Harbor Statement

This presentation has been prepared by Altimmune, Inc. ("we," "us," "our," "Altimmune" or the "Company") and includes certain “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995, including statements regarding the timing of clinical development and funding milestones for our clinical assets as well as statements relating to future financial or business performance, conditions, plans, prospects, trends, or strategies and other financial and business matters, and the prospects for commercializing or selling any product or drug candidates. 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 forward-looking 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: potential impacts due to the COVID-19 pandemic such as delays in regulatory review, manufacturing and supply chain interruptions, adverse effects on healthcare systems and disruption of the global economy, the timing and reliability of the results of the studies relating to human safety and possible adverse effects resulting from the administration of the Company’s product candidates; 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 timing of regulatory applications and 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.

COMPANY HIGHLIGHTS



Proprietary **intranasal vaccine platform** ideally suited for rapid response to pandemics, including COVID-19

Developing **next generation peptide therapeutics** for liver disease

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

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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

SEPRACOR

tranzyme pharma

NEOS Therapeutics

emergent biosolutions

ImQuest BioSciences

Institut Pasteur

Lyric Pharmaceuticals

ocera

IDT

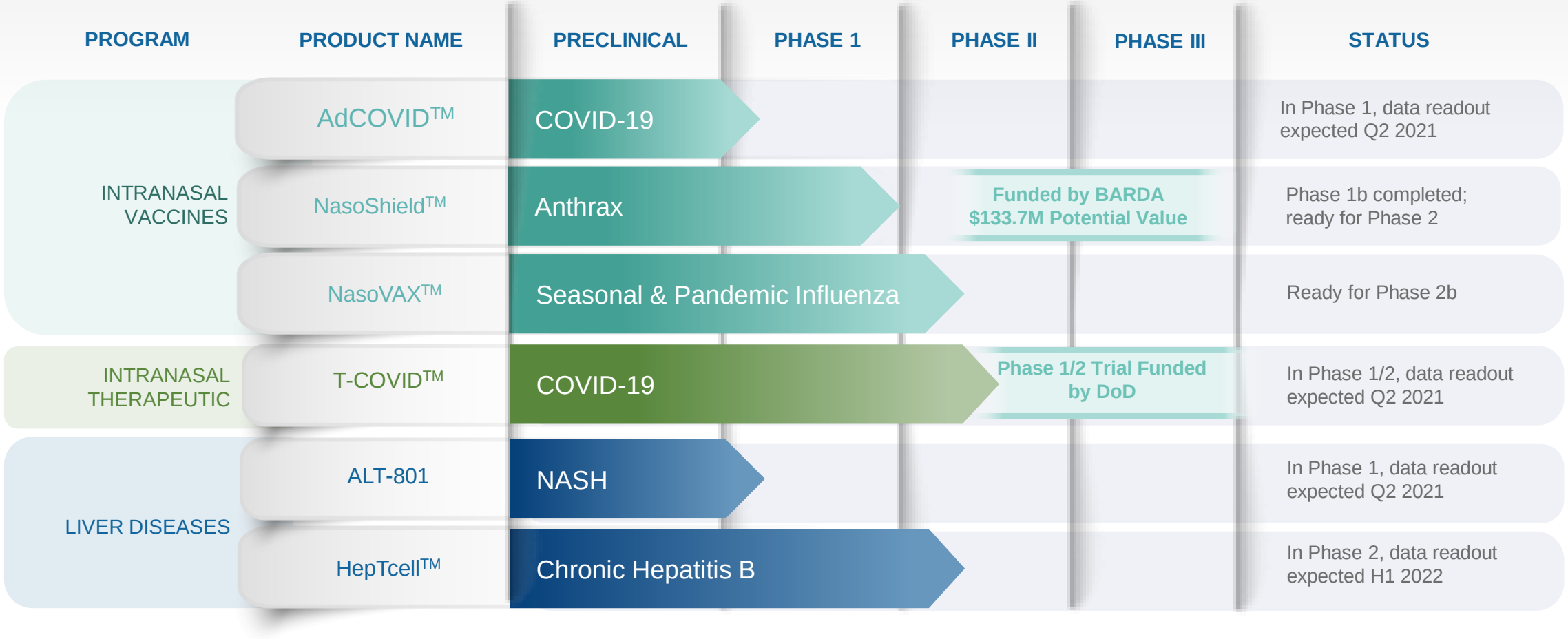
Rheem The new degree of comfort.

Wellstat Group of Companies

IMMUNE TARGETING SYSTEMS

pwc

ADVANCING STRONG DEVELOPMENT PIPELINE



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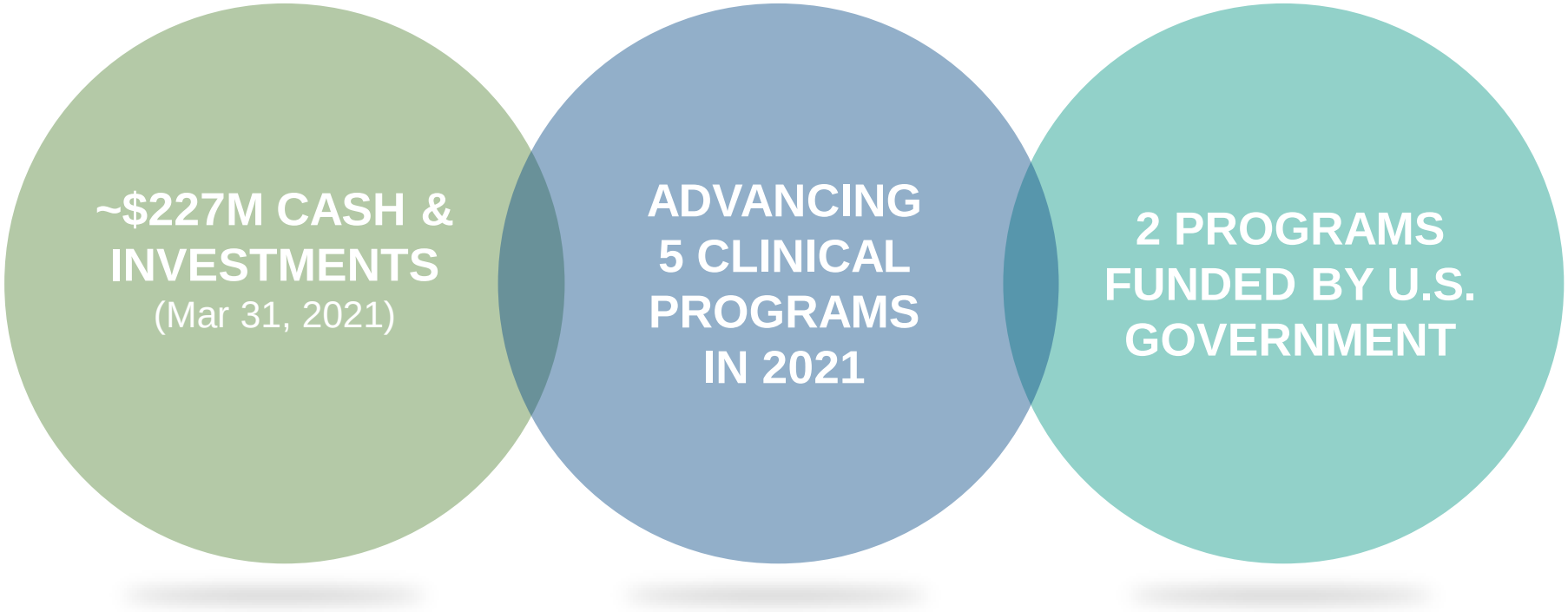
ALTIMMUNE IS WELL POSITIONED TO ADVANCE MULTIPLE PRODUCT CANDIDATES



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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 ≥ 2032
T-COVID	Prioritized review of pending US claims
ALT-801	2 Granted US patents | Patent applications other territories Expiry ≥ 2035
HepTcell	Granted US patent | Patent applications other territories Expiry ≥ 2033

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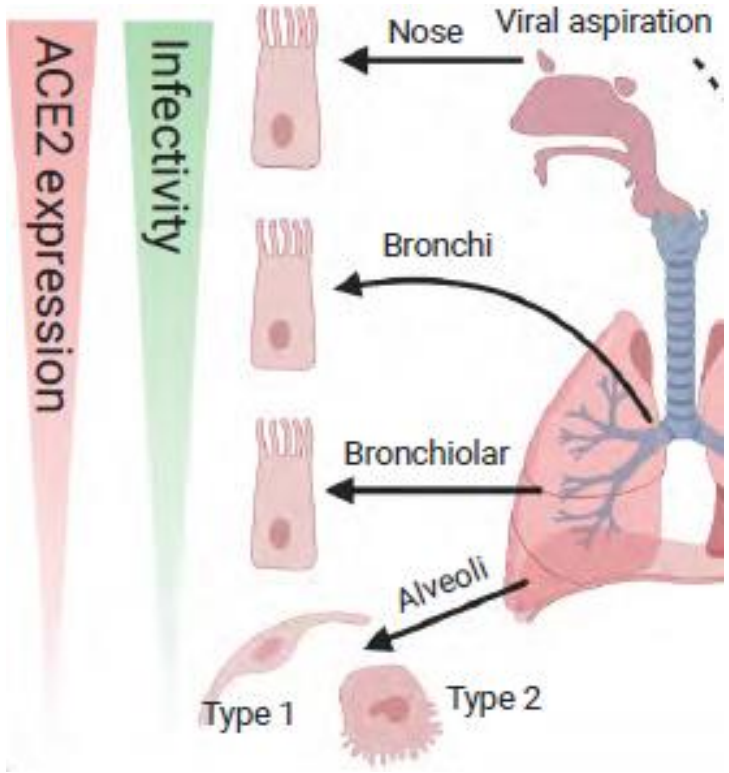
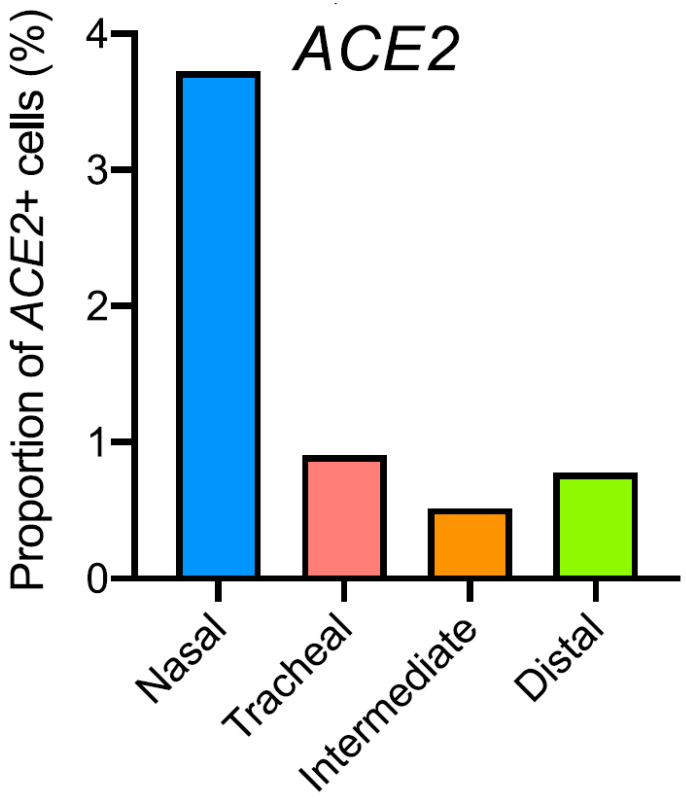
AdCOVID INTRANASAL VACCINE

AdCOVID: SINGLE-DOSE INTRANASAL VACCINE FOR COVID-19

MUCOSAL IMMUNITY TO BLOCK INFECTION AND TRANSMISSION IN NASAL CAVITY





Cell

"highest ACE2 expression in the nose…high SARS-CoV-2 infection in proximal airways vs distal airways"

Hou YJ, Cell 182, 429–446, 23 July 2020

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AdCOVID: COMPELLING PRECLINICAL DATA

- Potent induction of multiple arms of the immune system
  - Systemic neutralizing antibody
  - Mucosal IgA response
  - Mucosal and systemic T cell responses
- Longevity of serum antibody responses
- Rapid recruitment of innate and adaptive immune cells into respiratory tract and draining lymph nodes consistent with induction of mucosal and systemic immunity
- Potent CD8+ T cell response in lung with resident memory phenotype

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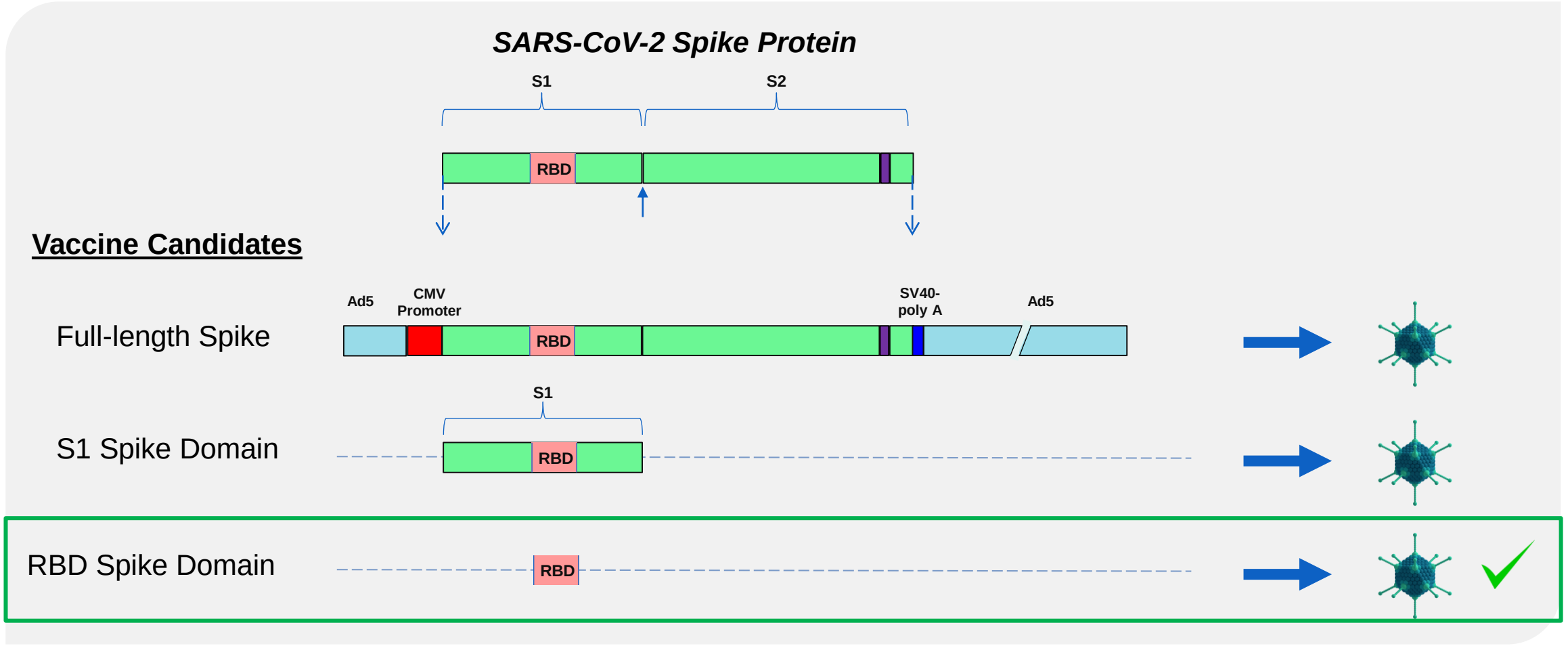
AdCOVID: SINGLE-DOSE INTRANASAL VACCINE FOR COVID-19

VACCINE CANDIDATES BASED ON REPLICATION-DEFICIENT Ad5 PLATFORM



AdCOVID: IMPROVING UPON CURRENTLY AUTHORIZED VACCINES

- **Greater ease and comfort of administration**
  - *Single dose, simple nasal spray, not an intramuscular injection*
- **Broader immunity**
  - *Induces neutralizing antibody, T cells and nasal mucosal immunity*
- **Potential to block infection AND transmission**
  - *Stimulates mucosal immunity at the site of viral entry—the nasal cavity*
- **Room temperature stable for several months**
  - *Allows for distribution and deployment without refrigeration or ultra low-temp freezers*
- **Improved safety profile**
  - *Indistinguishable from placebo in Altimmune's clinically tested vaccine platform*
- **Durable antibody response**
  - *13+ months of protective response demonstrated by Altimmune's clinically tested vaccine platform*

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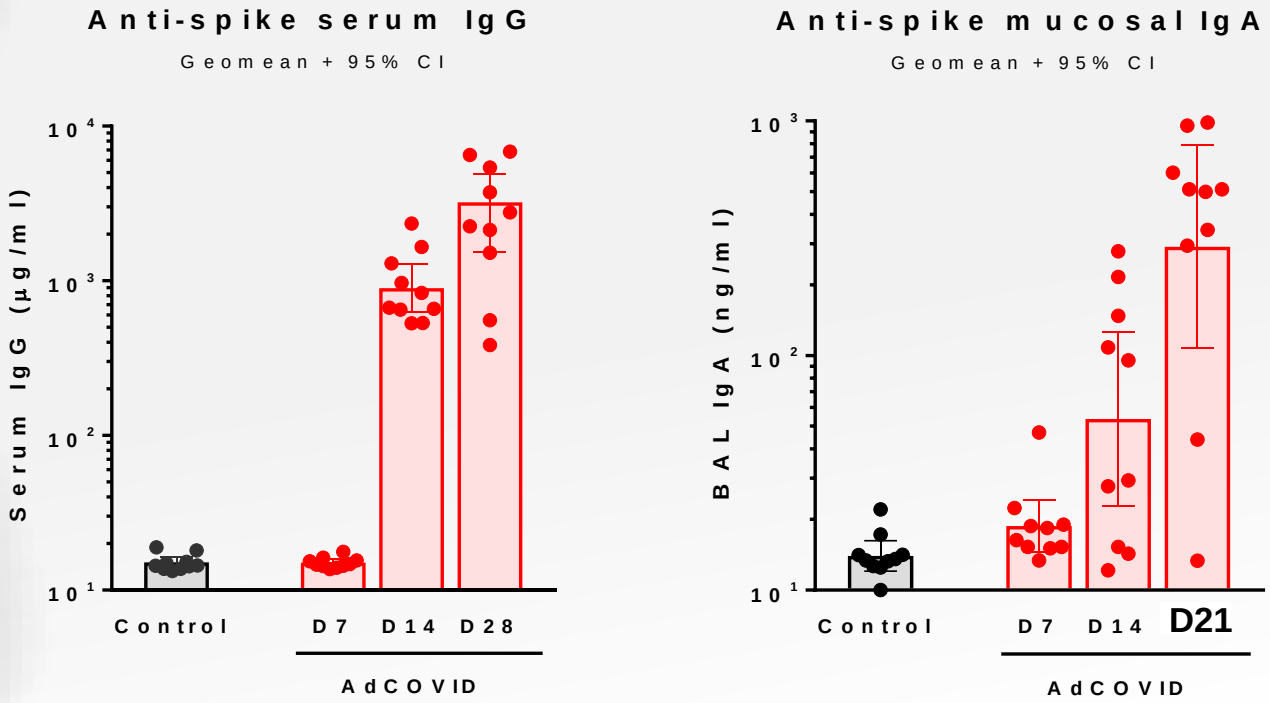
AdCOVID: STIMULATION OF BOTH SERUM AND MUCOSAL ANTIBODIES

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

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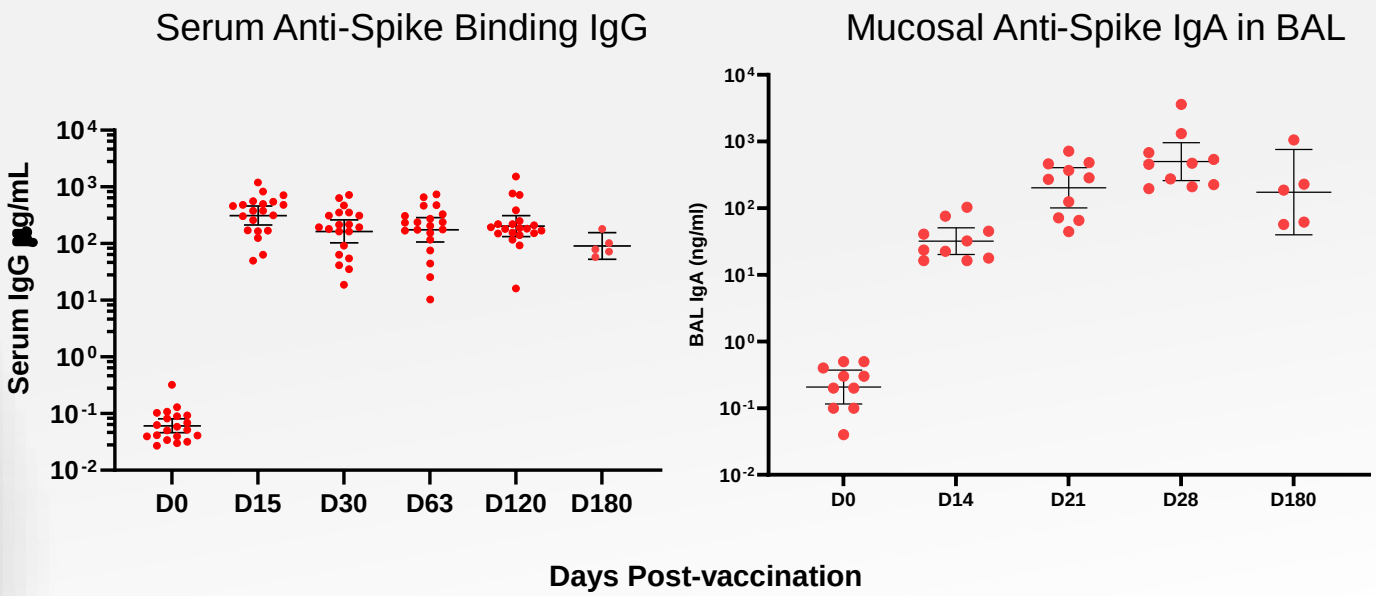
AdCOVID: DURABLE SYSTEMIC AND MUCOSAL ANTIBODY RESPONSES

SERUM IgG AND MUCOSAL IgA TITERS MAINTAINED FOR AT LEAST 6 MONTHS

Spike-specific serum IgG and respiratory IgA titers over time



Single intranasal dose of AdCOVID

IgG measured in serum, IgA in bronchoalveolar lavages (BAL)

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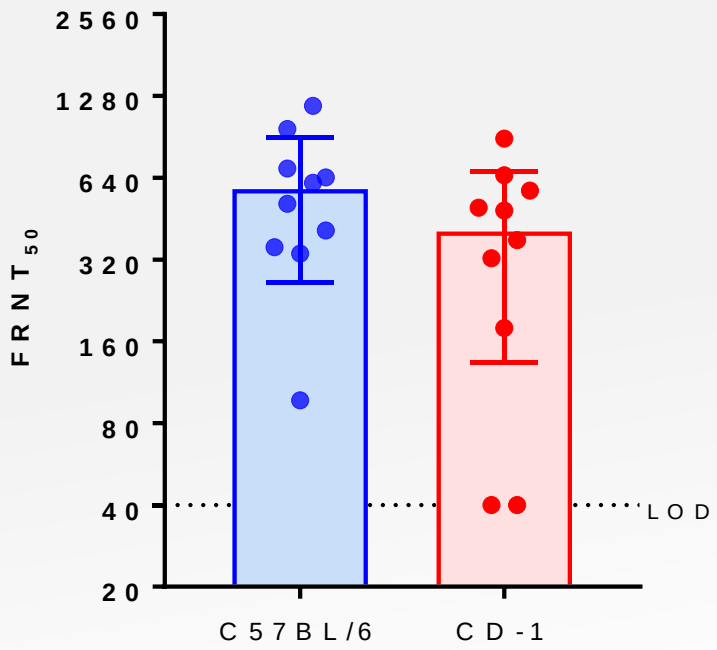
AdCOVID: POTENT INDUCTION OF SERUM NEUTRALIZATION TITERS

Mean Neutralizing Antibodies Against Wild-type SARS-CoV-2



Single intranasal dose of AdCOVID

Consistent results in two strains of mice

Responses are several fold higher than reported for most convalescent sera

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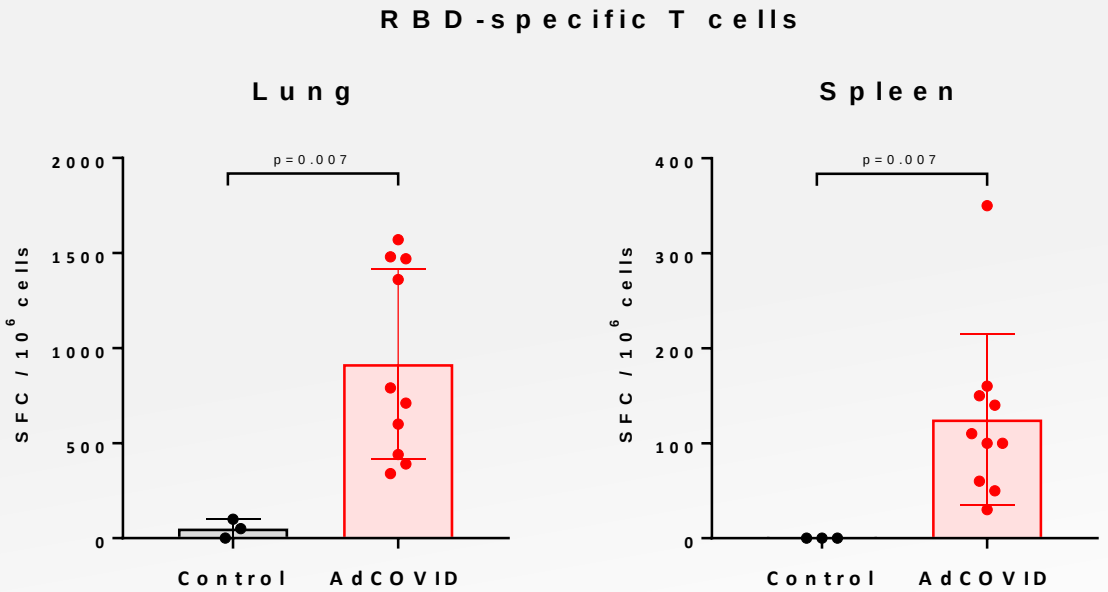
AdCOVID: STIMULATION OF MUCOSAL & SYSTEMIC T CELL IMMUNITY

RBD-SPECIFIC T CELLS IN THE LUNG AND SPLEEN

RBD-specific T Cell Responses



Single intranasal dose of AdCOVID

Mucosal (lung) and systemic (spleen) T cell responses

T cell response especially strong in lung

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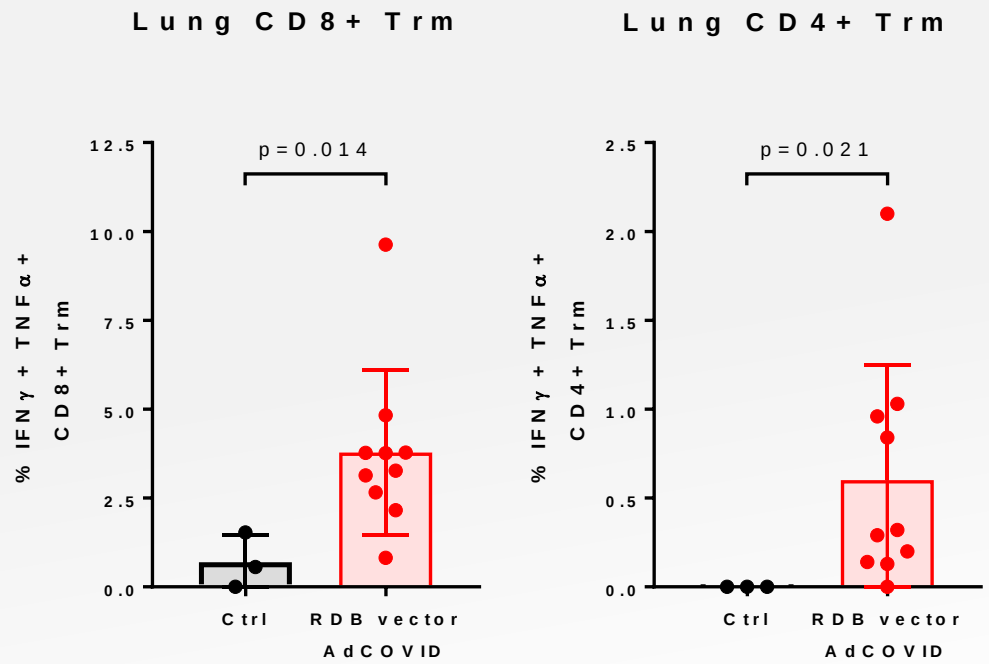
AdCOVID: CELL IMMUNITY INCLUDED RESIDENT MEMORY T CELLS

TISSUE-LOCALIZED T CELLS POISED TO FIGHT LUNG INFECTION

RBD-specific Resident Memory T Cell Responses



Single intranasal dose of AdCOVID

T cells with a resident memory phenotype stay in lung poised for protection

Strong CD8+ killer T cell response to clear infected lung cells

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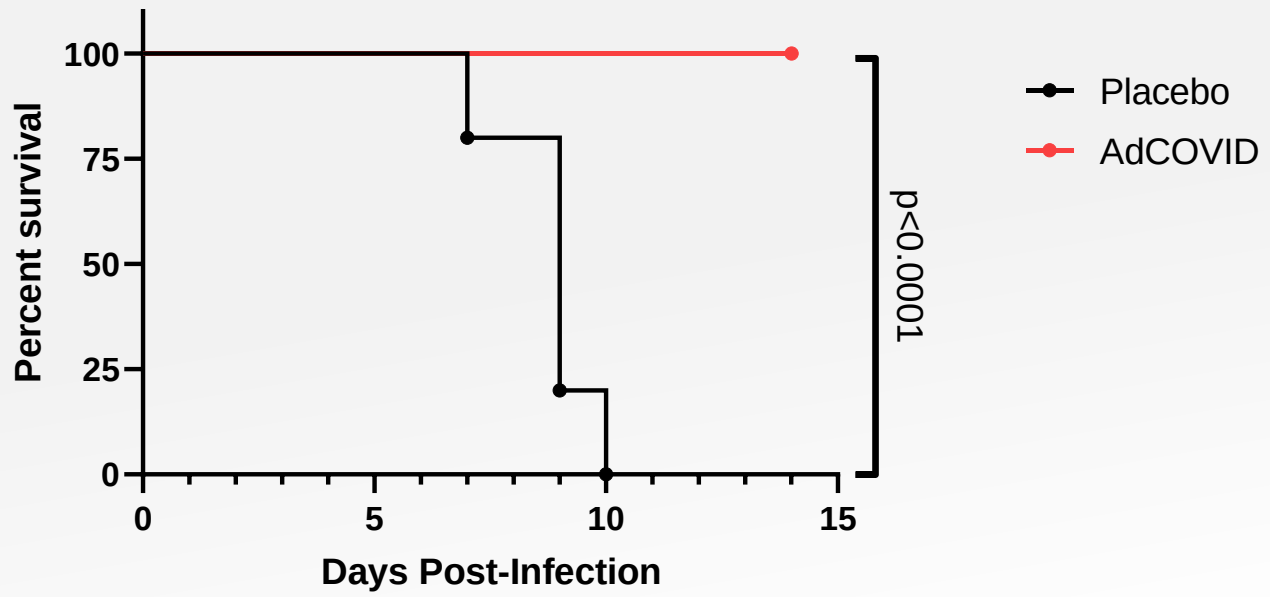
AdCOVID: SINGLE DOSE EFFICACY

COMPLETE PROTECTION AGAINST DISEASE FOLLOWING LETHAL CHALLENGE

K18-hACE2 Transgenic Mouse Model



Single intranasal dose of AdCOVID 1 month prior to challenge

Challenged with 1 x 10^4 FFU of SARS-CoV-2 (AZ1 isolate)

No weight loss in the AdCOVID vaccinated group

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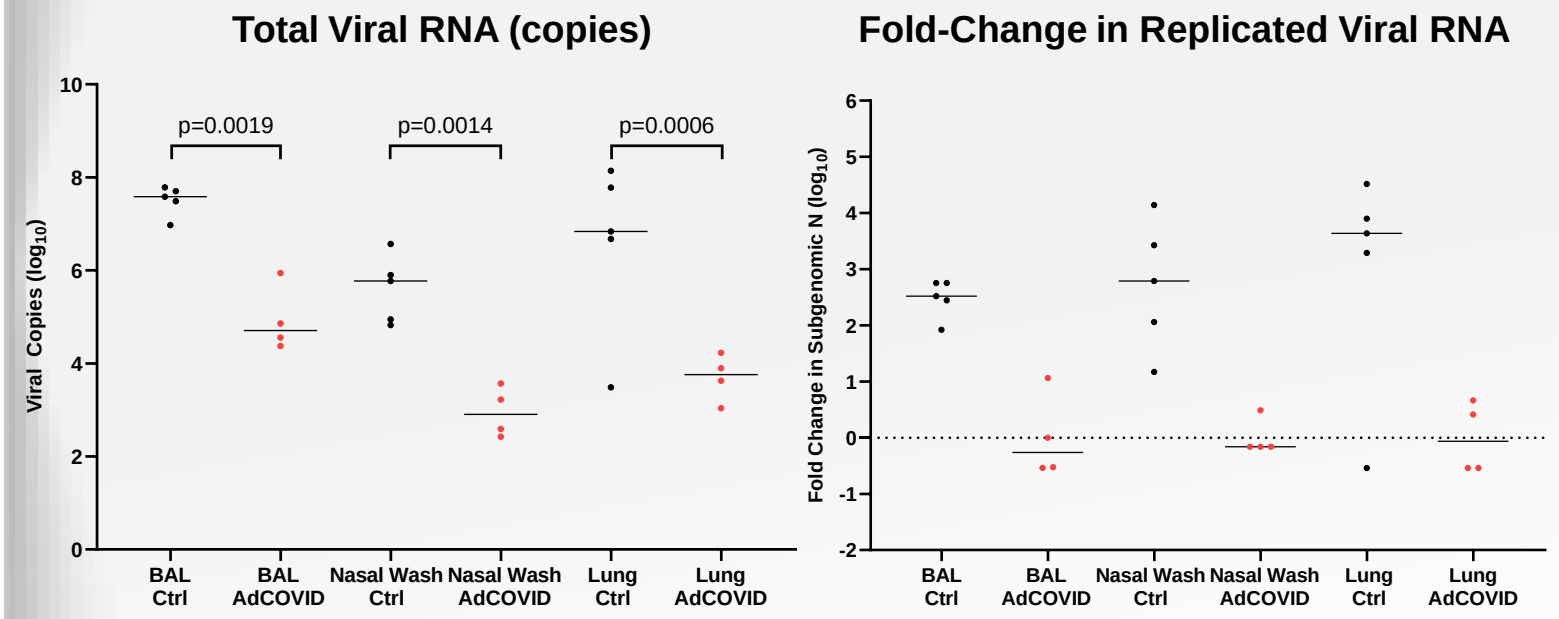
AdCOVID: REPRESSION OF VIRAL REPLICATION

1000-FOLD REDUCTION IN TOTAL AND REPLICATING VIRUS

K18-hACE2 Transgenic Mouse Model



Single intranasal dose of AdCOVID 1 month prior to challenge

Challenged with 5 x 10^3 pfu SARS-CoV-2 (WA1 isolate)

Viral titers determined Day 3 post-challenge

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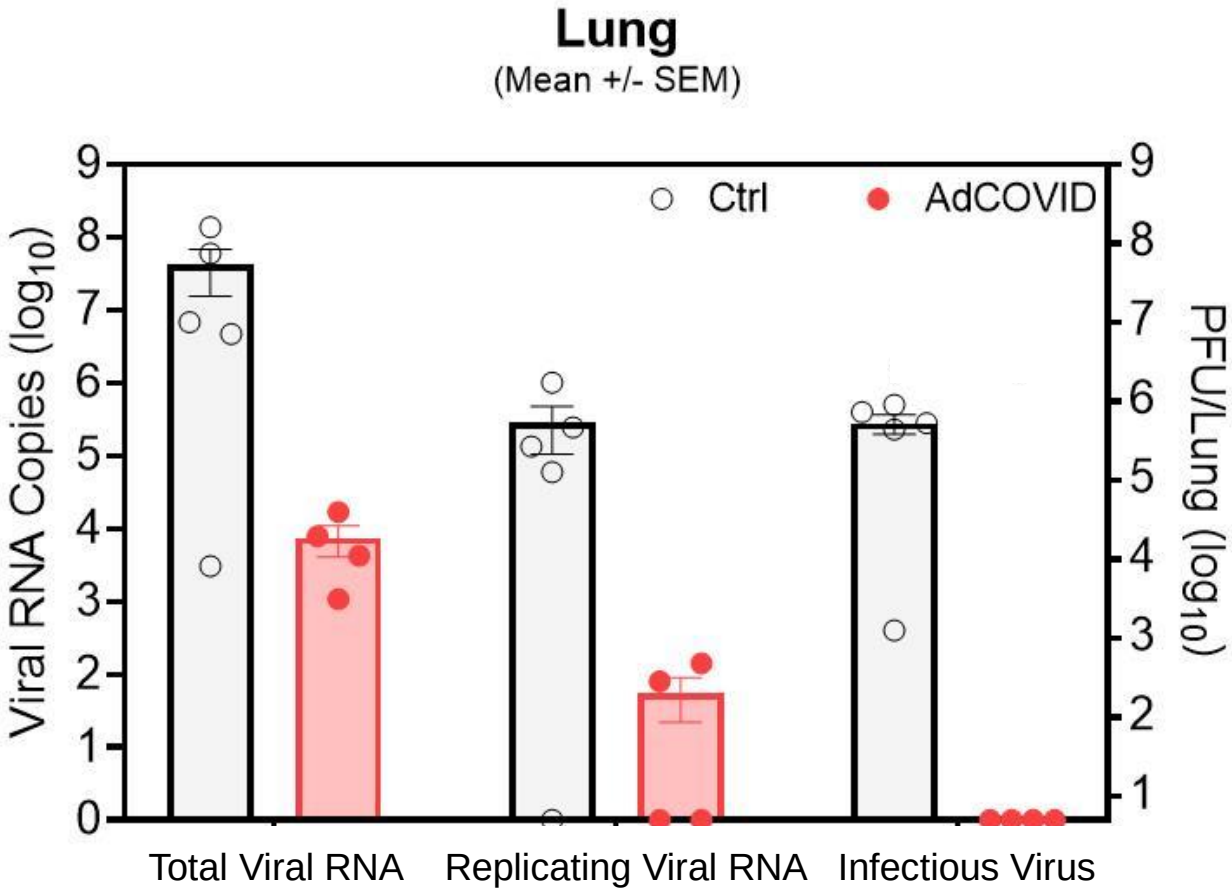
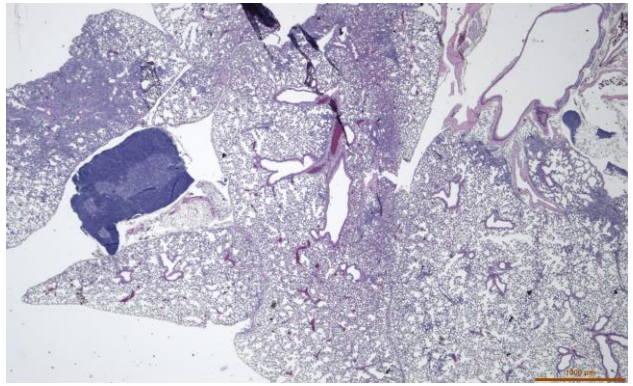
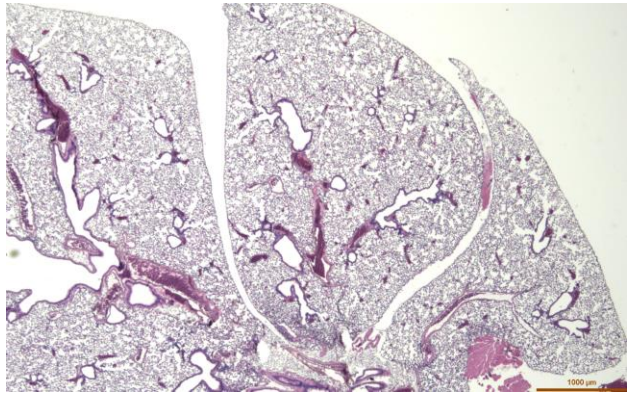
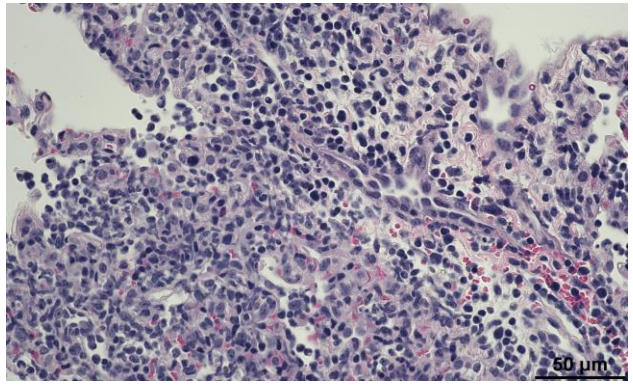
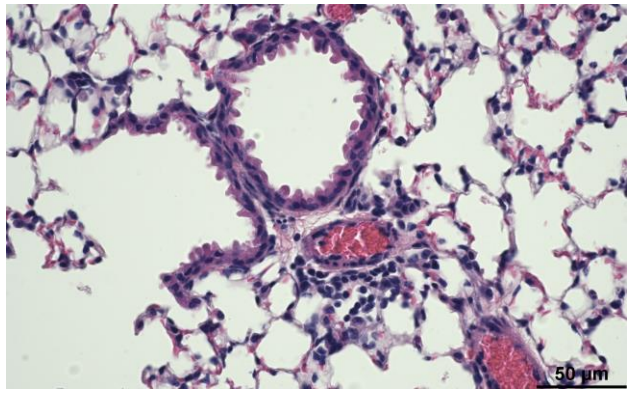
AdCOVID PROVIDES STERILIZING IMMUNITY IN MICE

- Single intranasal dose of AdCOVID administered 28 days prior to SARS-CoV-2 challenge
- Heavy viral RNA burden reduced ~1000-fold over non-vaccinated controls
- Infectious virus undetectable in lungs of AdCOVID vaccinated mice (≥50,000-fold reduction in PFU over non-vaccinated controls)



PFU: plaque-forming units; Ctrl: unvaccinated controls

SINGLE DOSE AdCOVID PROTECTS AGAINST LUNG DISEASE IN MICE

	Control	AdCOVID
Low magnification		
High magnification		

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AMENDED ADCOVID PHASE 1 STUDY DESIGN

- Approximately 80 subjects randomized 5:1 to receive one or two doses of AdCOVID or placebo
- Three dose groups
  - Low dose—1 x 10^{10} vp
  - Medium dose—3 x 10^{10} vp
  - High dose—1 x 10^{11} vp
- Immunogenicity readouts will include neutralizing Ab, anti-spike IgG, and anti-spike IgA (mucosal immunogenicity) measured 28 days after the first and second doses
- Enrollment target met, and topline results expected June 2021
- T cell readouts expected to follow in 4-6 weeks

KEY STUDIES TO SUPPORT AdCOVID TARGET PRODUCT PROFILE

Target Product Profile	Key Anticipated Phase 2 Trials
• Boosts natural immune response to wild-type and variant viruses in previously infected but unvaccinated individuals	• Naïve and previously-infected populations in Low-Access Countries
• Boosts immune response to wild-type and variant viruses in vaccinated individuals	• Revaccination with parental and variant vaccines in previously vaccinated individuals
• Safe and well-tolerated in children down to 2 years of age	• Age-based de-escalation study in young children and adolescents
• Safe for use in pregnant and breast-feeding women	• Maternal immunization study

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NasoShield

INTRANASAL VACCINE

NasoShield: FUNDED THROUGH A DEVELOPMENT CONTRACT WITH BARDA

Phase 1b clinical trial completed

Received $3.7M BARDA funding to conduct Phase 1b clinical trial

$133.7M total contract value through Phase 2

Stockpiling of vaccine may occur prior to licensure[1]

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

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DIFFERENTIATED

Only single-dose vaccine
currently in development

Intranasal spray

Faster protection

Superior logistics

- No cold chain distribution
- Potentially self-administered/ no injection required

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**

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T-COVID
INTRANASAL
THERAPEUTIC

T-COVID: BASED ON RD-Ad5 VECTOR VACCINE PLATFORM

SINGLE DOSE INTRANASAL THERAPEUTIC FOR THE TREATMENT OF EARLY COVID-19

Single dose intranasal therapeutic

- Potentially self-administered

Modulates the innate immune response

- Reduced lung inflammation and inflammatory cytokine response in preclinical models

Acts rapidly

- Provided protection within days of administration in preclinical models

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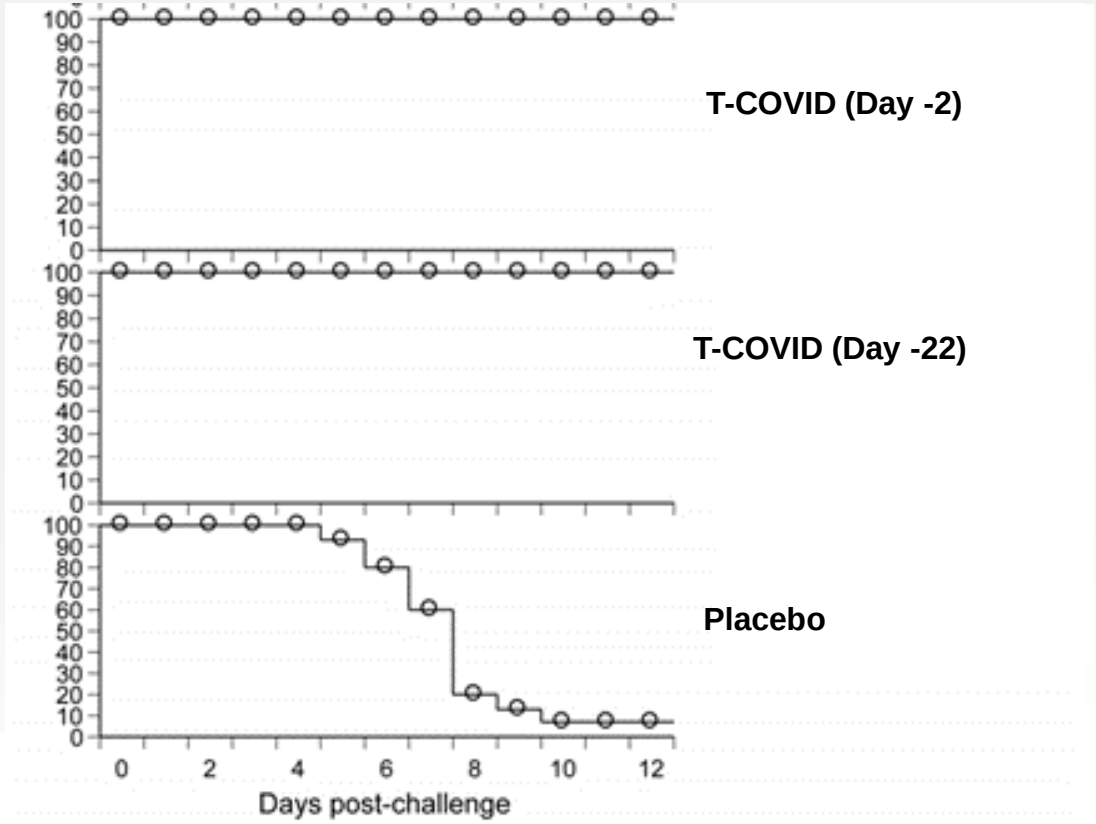
T-COVID: RAPID PROTECTION FROM RESPIRATORY PATHOGENS

Survival curves following lethal influenza challenge



Near immediate protection from challenge with influenza virus

Mechanism based on reduction of exaggerated lung inflammatory cytokine response

Pathogen-independent mechanism suggests efficacy against broad panel of respiratory pathogens

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T-COVID PHASE 1/2 CLINICAL TRIAL ONGOING

- 96 community-based patients with fever, cough, or shortness of breath, with onset of symptoms and confirmed diagnosis of COVID-19 within 72 hours
- Randomized 1:1 to T-COVID or placebo administered as a single 0.5 mL nasal spray on the day of diagnosis
- 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 (SpO_2), or hospitalization
- Secondary endpoints:
  - Average decrease in resting SpO_2
  - Average increase in resting pulse rate
  - Proportion of patients requiring oxygen supplementation and mechanical ventilation

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LIVER DISEASE
ALT-801

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 NASH**[1]
- Up to **40% of NASH patients develop NAFLD** recurrence one year after liver transplant—we believe the underlying metabolic disease is still present[2]
- 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 surgery**[4]

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

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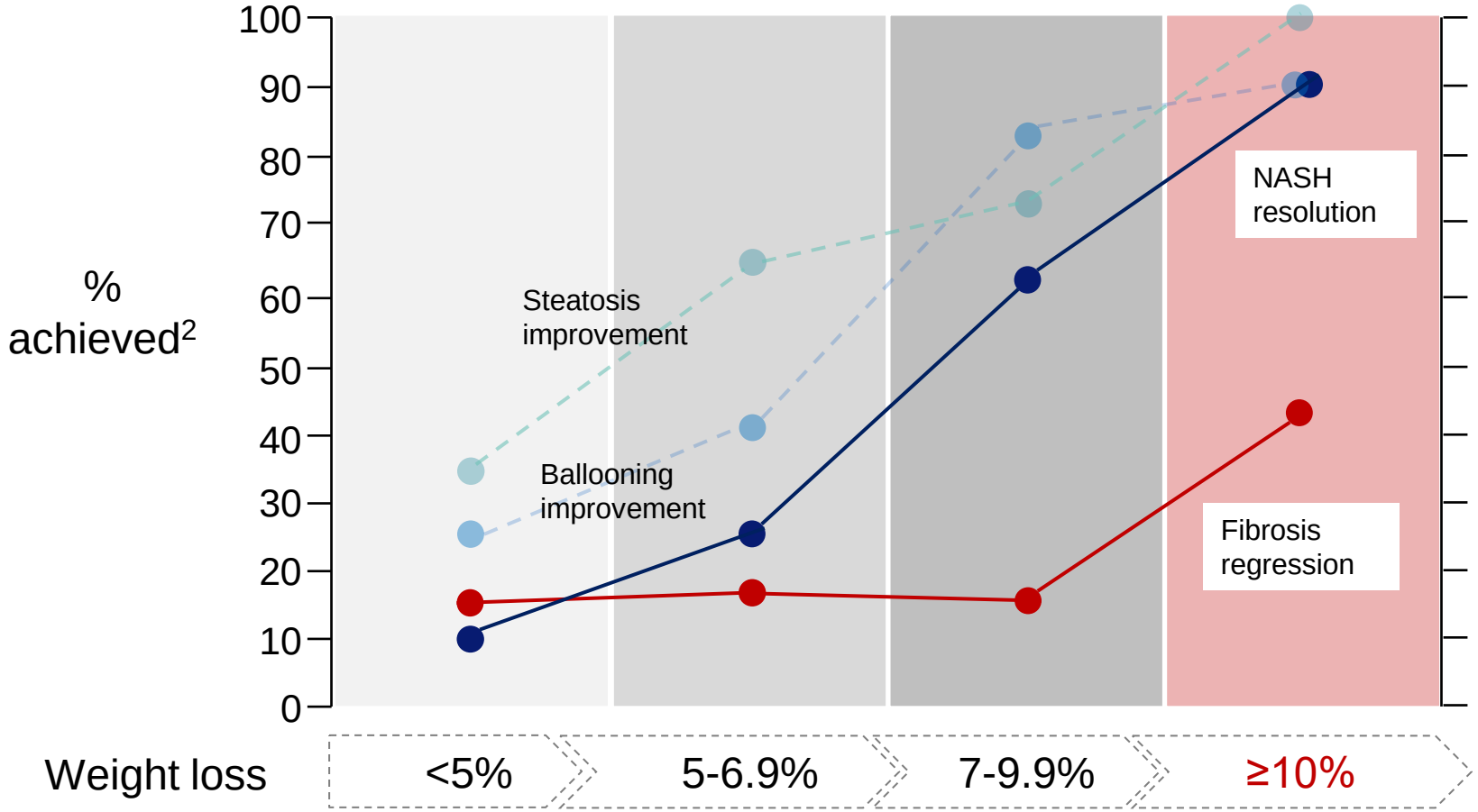
SUBSTANTIAL BODY WEIGHT LOSS IS NECESSARY TO BLUNT NASH PROGRESSION

10% OR MORE WEIGHT LOSS MUST BE ACHIEVED[1]



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*

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

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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]	THRβ 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

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

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ALT-801: GLP-1/GLUCAGON RECEPTOR DUAL AGONIST

OPTIMIZED FOR NASH AND WEIGHT LOSS

GLP-1

blood glucose

appetite

inflammation

Indirect effects on liver

GLUCAGON

energy expenditure

adipose browning

lipolysis/ gluconeogenesis

mobilization of liver fat

Direct effects on liver

DESIGNED FOR SIGNIFICANT REDUCTIONS IN

body weight

liver fat, inflammation and resulting fibrosis

blood glucose

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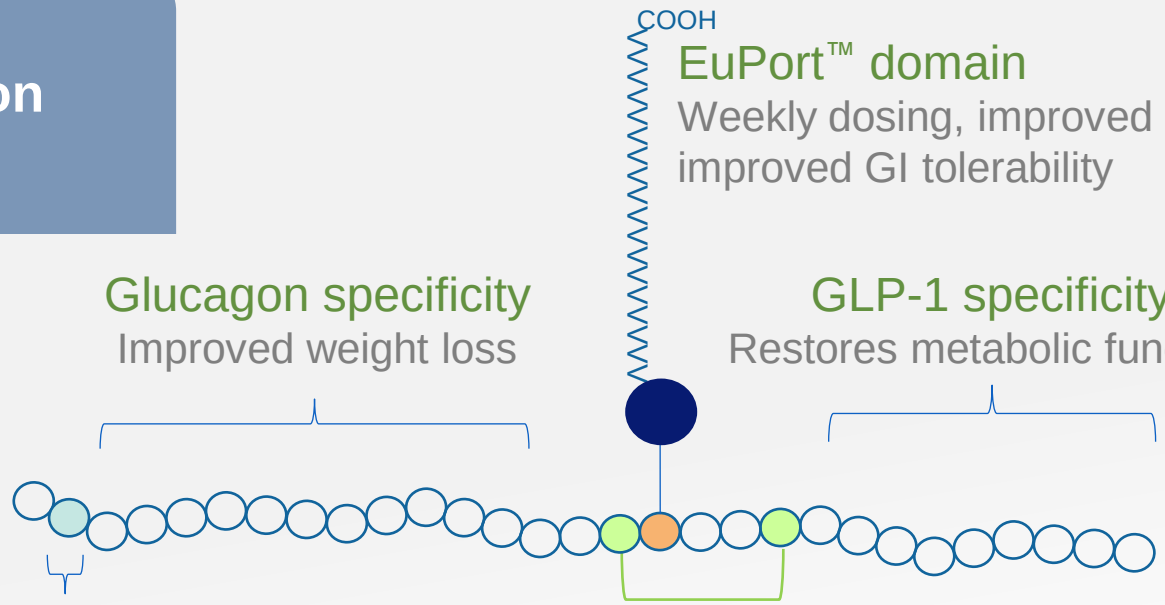
ALT-801: RATIONALLY DESIGNED AND HIGHLY DIFFERENTIATED

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

Balanced GLP-1:Glucagon Agonism



[1]Guarracino 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

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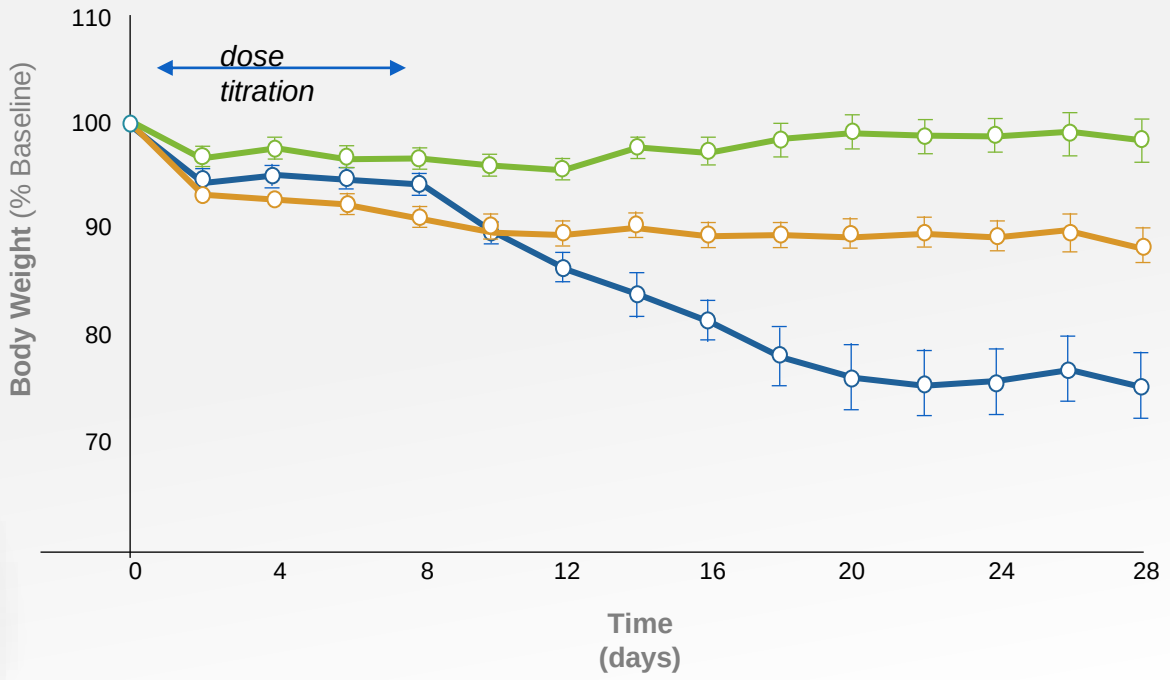
ALT-801

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**

Vehicle

Semaglutide (12nmol/kg)

ALT-801 (12nmol/kg)

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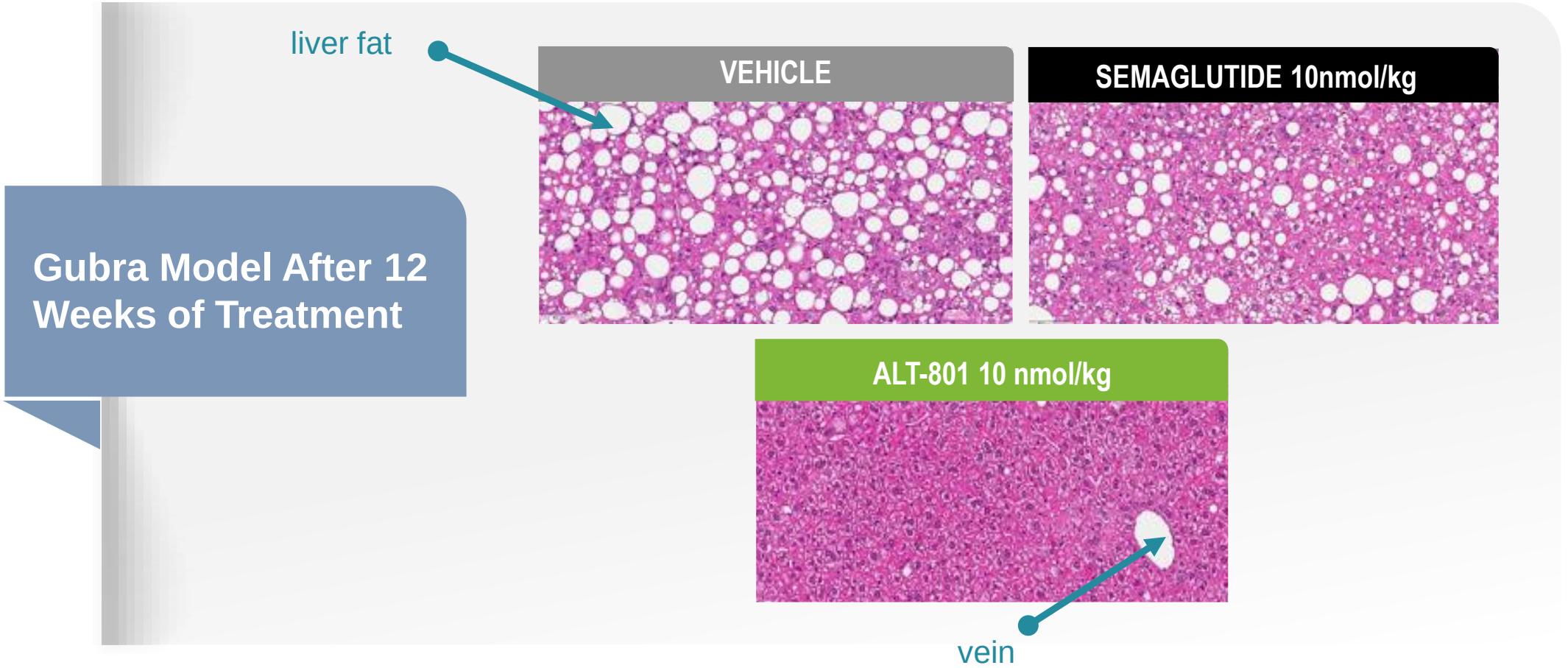
ALT-801

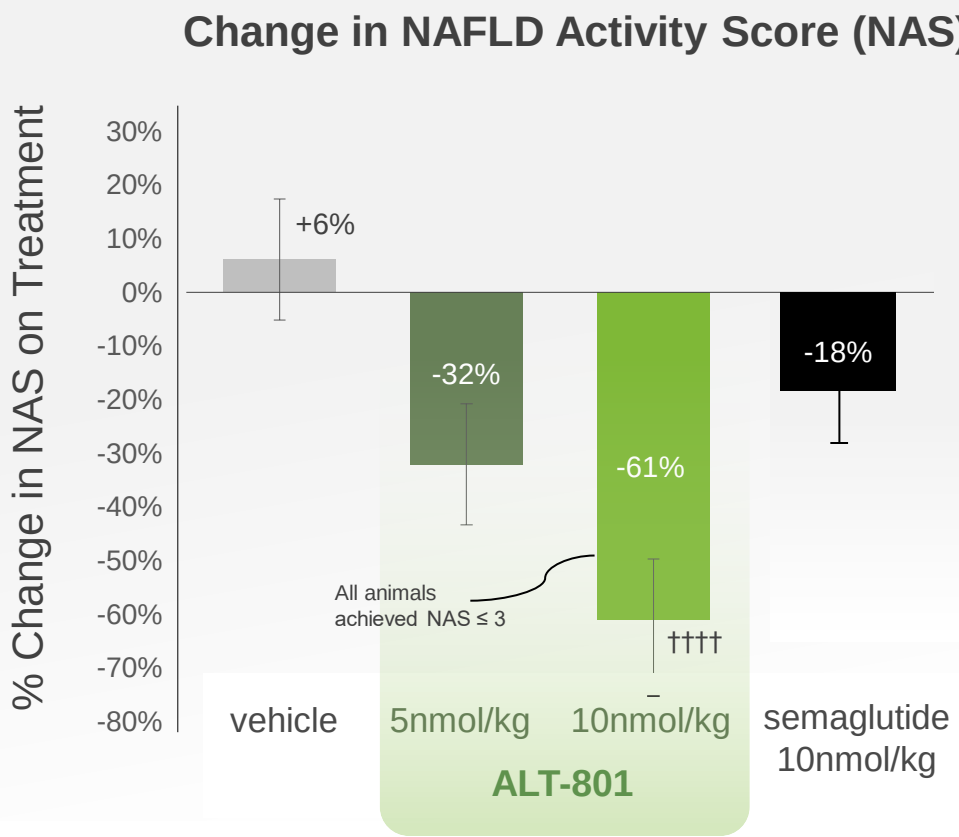
REDUCTION IN LIVER FAT AND LIVER WEIGHT TO LEAN NORMAL RANGE



ALT-801

IMPROVEMENT IN NAFLD ACTIVITY SCORE (NAS)

Gubra NASH Mouse Model After 12 Weeks of Treatment



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

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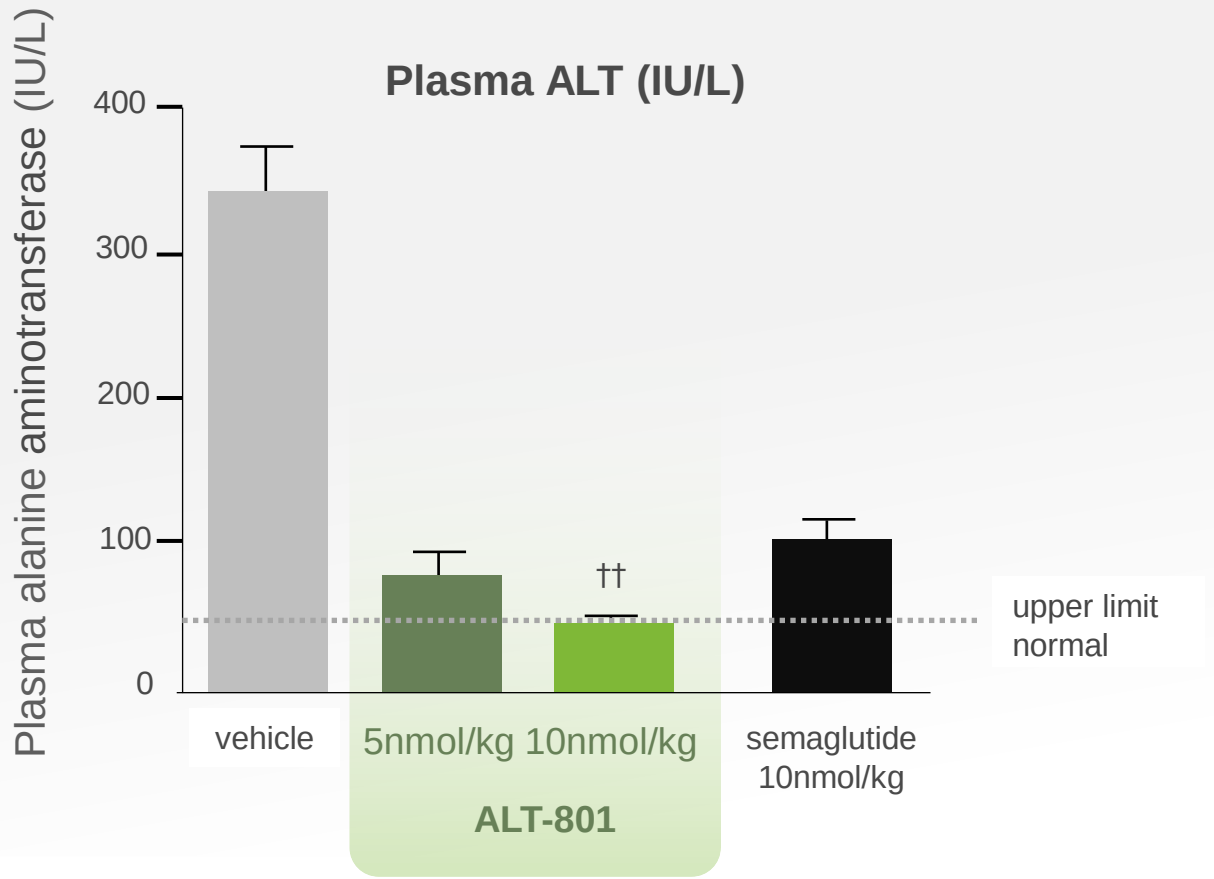
NORMALIZATION OF PLASMA ALT

Gubra NASH Mouse Model After 12 Weeks of Treatment



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

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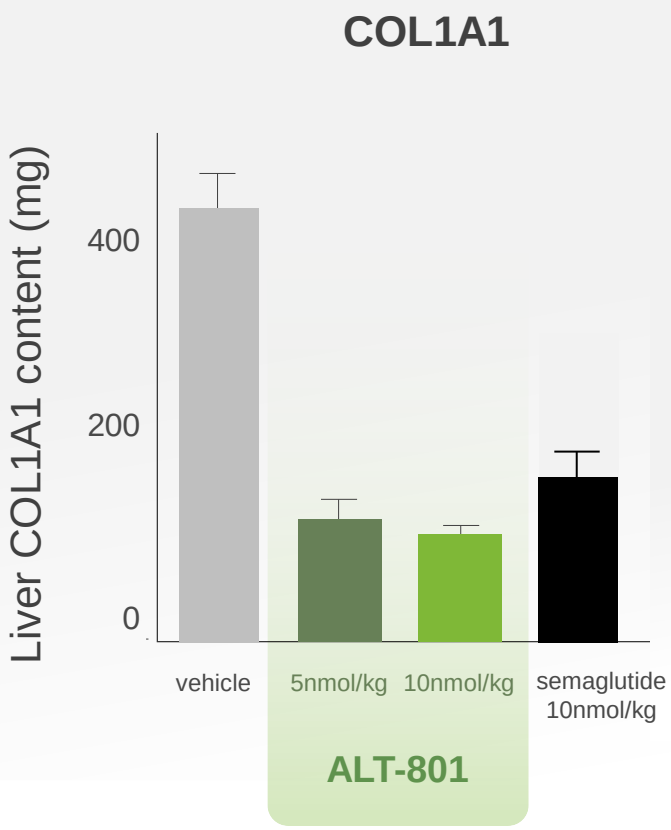
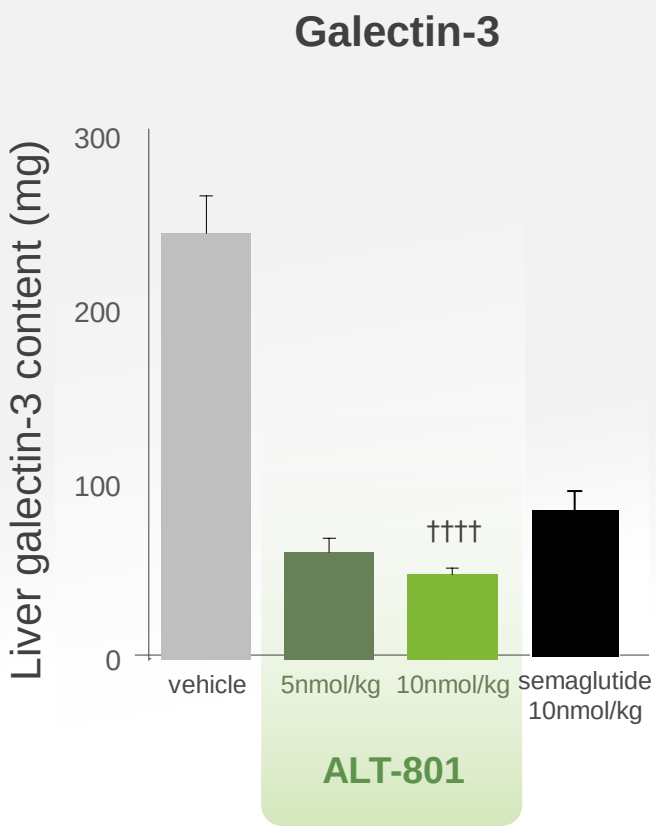
ALT-801

GREATER EFFECTS ON FIBROSIS

Gubra NASH Mouse Model After 12 Weeks of Treatment





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ALT-801 PHASE 1 TRIAL UPDATE

- Phase 1 study is advancing to data readout
  - Enrollment completed in the single ascending dose (SAD) phase and the 3 planned cohorts of multiple ascending dose (MAD) phase of the trial
  - 6-week data anticipated in June 2021; 12-week data anticipated in Q3 2021
- Anticipate mid-year IND filing to initiate NASH studies in the US
- A 52-week, Phase 2, biopsy-trial based on NASH endpoints is expected to commence in early 2022

ALT-801 – POTENTIAL IND FILING FOR OBESITY IN 2H 2021

- Novo Nordisk (semaglutide) and Lilly (tirzepatide) have executed successful Phase 3 programs
- These programs have de-risked the obesity space previously occupied by unsafe and ineffective drugs
- GI intolerability has been problematic for GLP-1 based treatments, with side effects leading to treatment discontinuation
- If the impressive weight loss and tolerability of ALT-801 in preclinical studies translate to the clinical setting, ALT-801 could be ideally suited in this indication
- The filing of a 2nd IND in obesity in 2H 2021 is being evaluated, with the final decision based on the upcoming Phase 1 trial readout

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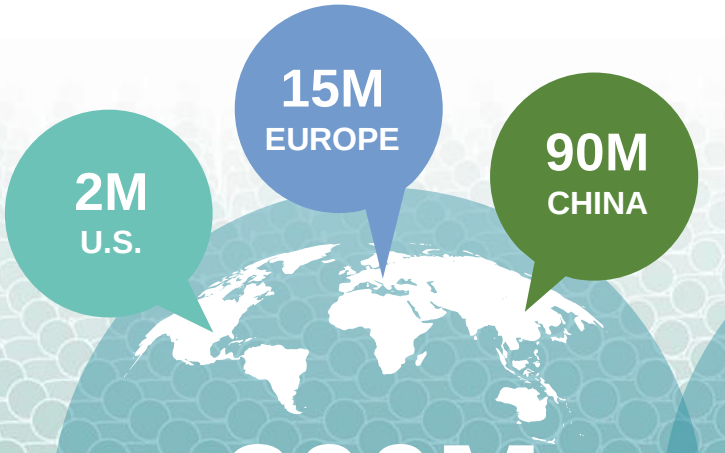
LIVER DISEASE

HepTcell

HepTcell: T CELL IMMUNOTHERAPEUTIC FOR CHRONIC HEPATITIS B

SIGNIFICANT OPPORTUNITY TO IMPROVE CURRENT HBV CURE RATES



~300M

People with chronic HBV infection worldwide

780,000+

deaths/year due to cirrhosis and liver cancer

~2.2M

Estimated prevalence of chronic HBV in USA

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CURRENTLY APPROVED HBV THERAPEUTICS DO NOT LEAD TO A CURE

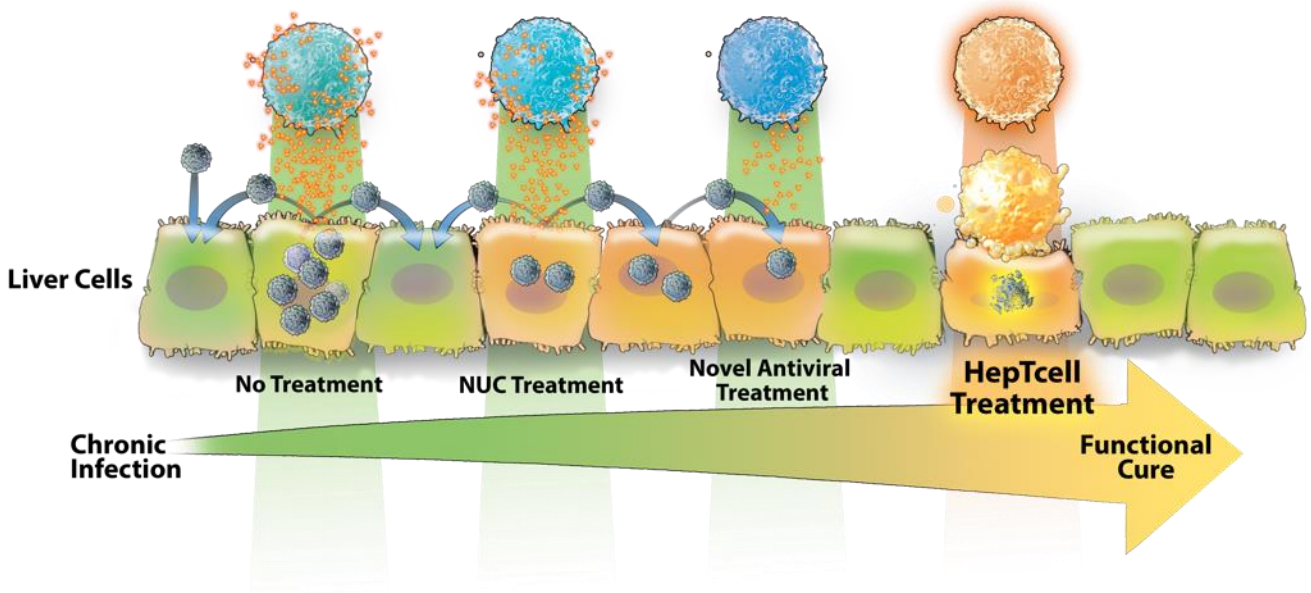
IMMUNE ACTIVATION WILL BE REQUIRED FOR SIGNIFICANT IMPACT

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



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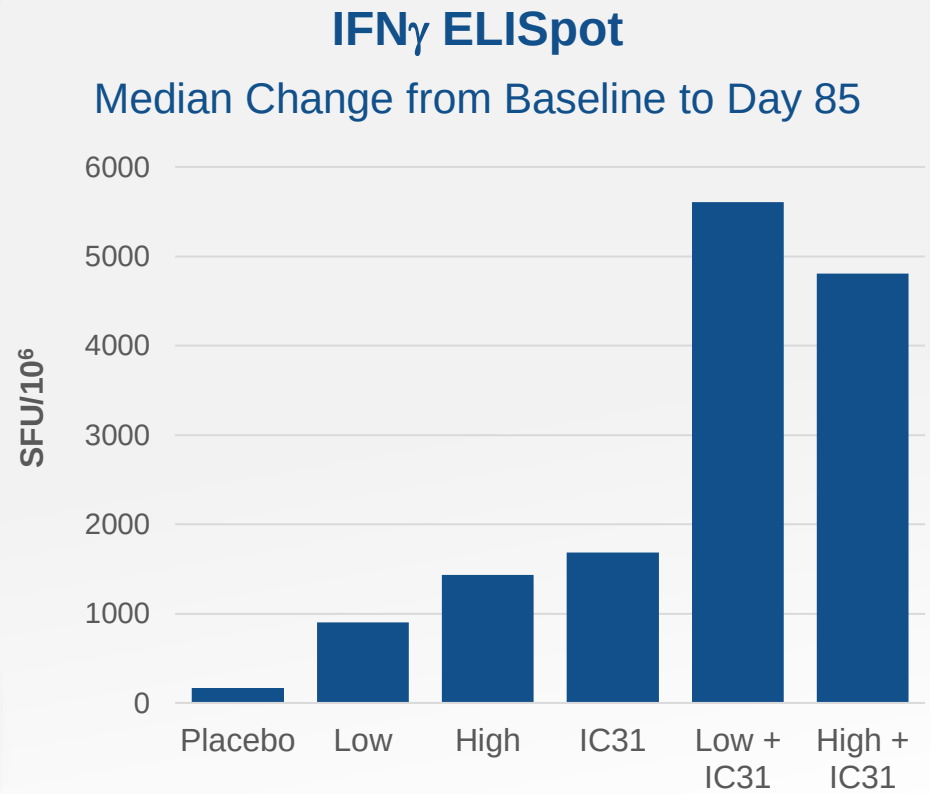
HepTcell: PHASE 1 SAFETY AND IMMUNOGENICITY STUDY

Anti-HBV T-cell Response After 3 Injections



HepTcell is designed to break 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

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HepTcell: PHASE 2 CLINICAL TRIAL

MULTINATIONAL, MULTICENTER TRIAL OF HEPTCELL IN INACTIVE CHRONIC HEPATITIS B

- 80 patients with HBeAg negative inactive chronic hepatitis B and HBsAg ≤ 100 IU/mL randomized 1:1 to HepTcell or placebo administered every 4 weeks for 24 weeks
- Follow-up study phase of 48 weeks after the last dose will assess the safety and durability of response of treatment
- Study to be conducted at 20 sites in the US, Canada and Europe
- Efficacy endpoints
  - Primary endpoint: proportion of patients with 1.0-log reduction in HBsAg from baseline at Week 24
  - Secondary endpoints: HBsAg clearance, changes from baseline in HBsAg, HBV DNA, HBcrAg, pg-RNA at Week 24

Phase 2 data readout expected H1 2022

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Summary

STRONG ANTICIPATED NEWS FLOW

Program	Event	Timing
AdCOVID	Phase 1 clinical trial readout	Q2 2021
	Phase 2 clinical trial initiation	Q2 2021
ALT-801	Phase 1 SAD/MAD clinical trial readout	Q2 2021
	Phase 1 (12-week dosing) readout	Q3 2021
T-COVID	Phase 1/2 clinical trial readout	Q2 2021
HepTcell	Phase 2 clinical trial readout	H1 2022

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ALTIMMUNE: INVESTMENT HIGHLIGHTS

1. **Diversified portfolio with 2 proprietary technology platforms**
   Intranasal vaccines & peptide therapeutics
2. **Highly-differentiated intranasal vaccine approach**
   Offers advantages over other vaccine approaches
3. **Strong clinical focus and momentum**
   5 ongoing clinical programs in 2021
4. **Multiple valuation catalysts anticipated over the next 12 months**
   Data read-outs from multiple clinical programs
5. **Solid cash position to reach value-generating milestones**
   ~$227 million as of March 31, 2021

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NASDAQ: ALT
THANK YOU