

Forward-looking Statement Disclosure

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INVESTMENT HIGHLIGHTS



Diversified pipeline of product candidates that address large market opportunities



Near-term value-driving catalysts in multiple therapeutic programs



\$42M cash on hand to support development programs and sustain operations through catalysts



Management team and infrastructure in place to advance product candidates



Diversified Product Pipeline

Multiple paths to value creation

Product		Preclinical	Phase I	Phase II	Phase	Ш
er ases	ALT-801	NASH				
Liver Diseases	HepTcell	Chronic Hepatitis B				
Immuno- Oncology	ALT-702	Solid Tumors				
Intra-nasal	NasoShield	Anthrax		Funded by BARDA \$133.7M Potential Value		
	NasoVAX	Seasonal Influenza			Exploring Strategic Alternatives	

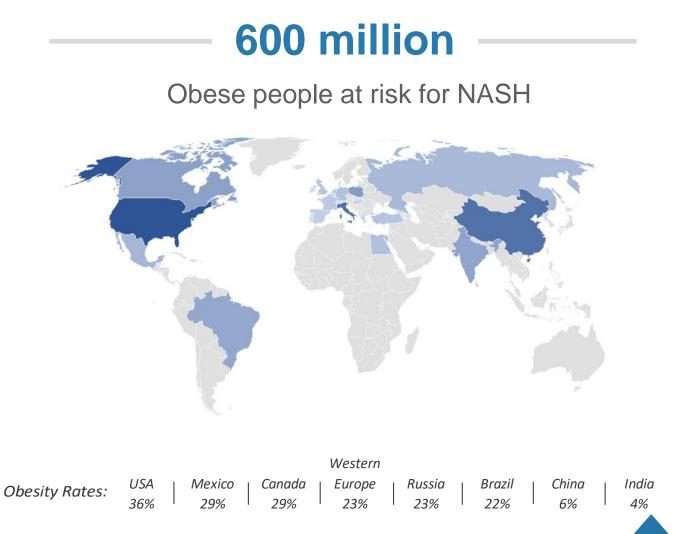




ALT-801: Novel GLP-1/ Glucagon Dual Agonist for NASH

Significant opportunity to address a growing unmet need

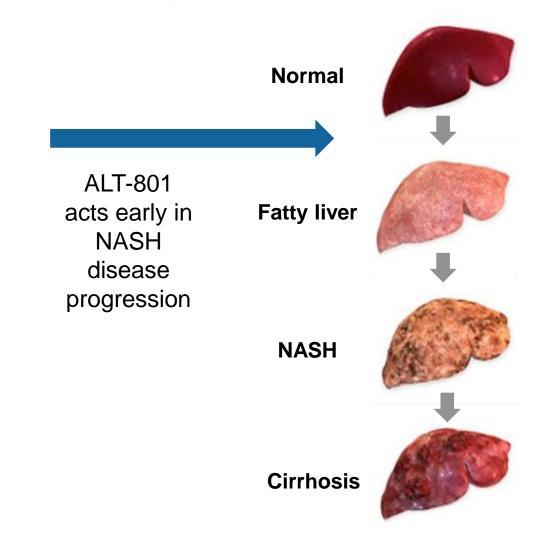
- Estimated 16.5M people in the U.S. diagnosed with NASH, projected to increase to 27M by 2030
- Effects patients globally as obesity epidemic becomes more prevalent
- No approved therapies for NASH currently available



ALT-801: Metabolic Intervention for NASH

Progressive disease frequently starts with obesity/metabolic syndrome

- Potent and balanced GLP-1/ glucagon dual agonism addresses the major underlying causes of NASH – obesity and excess body fat
- Reverses obesity, metabolic syndrome and hepatic dysfunction
- Substantial weight loss (≥10%) can reverse NASH progression¹





METABOLIC MODULATORS ADDRESS THE UNDERLYING CAUSES OF NASH - OBESITY AND **EXCESS BODY** FAT

METABOLIC MODULATORS

- ALT-801
- Semaglutide

ANTI-INFLAMMATORY

- Cenicriviroc
- Selonsertib

LIVER SPECIFIC EFFECTORS

- Pioglitizone
- Flafibranor
- MGL-3196

ANTI-FIBROTICS

- GR-MD-02
- Obetocholic acid (OCA)

Dual agonists represent an emerging approach that shows potential to significantly improve upon current candidates in development for NASH



ONCE WEEKLY DUAL AGONISTS IN DEVELOPMENT

Bias towards GLP-1 expected to show lower weight loss

Company	Molecule	CMC/COG	Safety and Tolerability	In vitro Potency	In vitro Intrinsic Activity	GLP-1R/GCGR Balance in vitro
Altimmune	ALT-801	Low – Small molecule modification	TBD	High	Full agonist	Balanced
Hanmi	HM12525A	High – Protein modification	TBD	High	Unknown	Balanced
OPKO (Prolor)	OPK-88003	High – Heterogeneous PEG	High doses required	Very low due to PEG & OXM ligand	Unknown	Bias to GLP-1R
Novo Nordisk	NNC9204-1177	TBD	TBD – potential for semaglutide like intolerance	Unknown	Unknown	Unknown
BI/ Zealand	BI 456906 US 2018 / 0094038	TBD	TBD	Low	Unknown	>7:1 bias to GLP-1R

ALT-801: Potential Best in Class Product Profile

Well-differentiated candidate with compelling pre-clinical data

ALT-801

OVERVIEW

DIFFERENTIATED Balanced dual agonist at GLP-1 and Glucagon receptors PK profile optimized for weekly dosing Potential for improved **GI** tolerability **STRONG** INTELLECTUAL PROPERTY

 Worldwide filings in 6 patent families; including a granted US patent with exclusivity > 2035



SUPERIOR PRE-CLINICAL DATA

Superior to semaglutide and elafibranor in:

- Overall weight loss
- Reduction in liver fat
- NAS improvement
- Effects on fibrosis

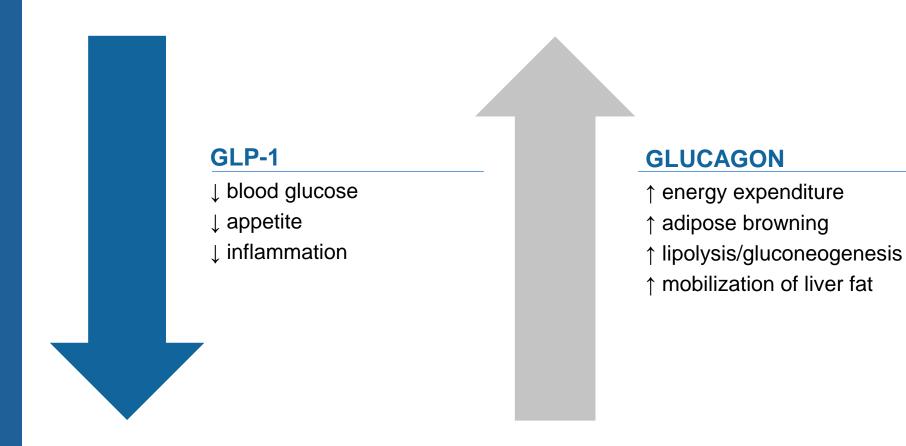


PATIENT FRIENDLY

Aqueous solution compatible with 31-gauge needle to maximize comfort



GLP-1/
GLUCAGON
DUAL AGONISTS:
OPTIMAL
ACTIVITY FOR
NASH



Significant reductions in:

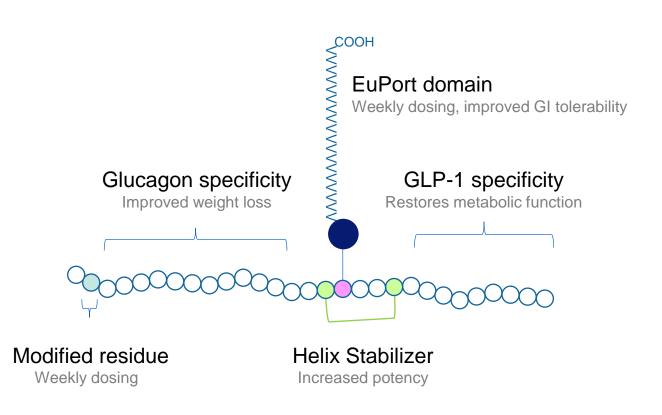
- weight
- liver fat, inflammation & resulting fibrosis
- blood glucose



ALT-801: Structure is Key to Differentiation

Proprietary EuPort domain provides improved PK

- EuPort domain intended for weekly dosing
- Slower onset of action for improved tolerability
- Helix Stabilizer improves potency and function of EuPort domain
- Non-natural amino acid resists proteolytic degradation



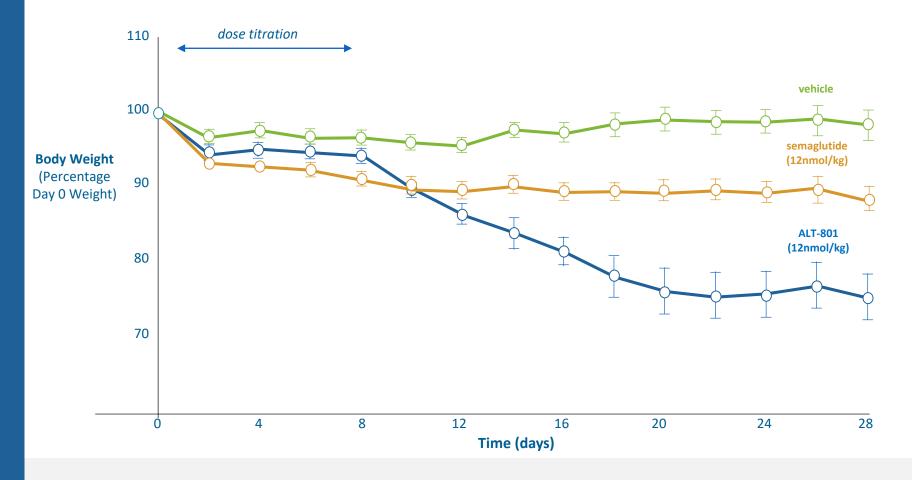


25%
WEIGHT LOSS

OVER ONE

MONTH

Mouse DIO Model After 4 Weeks of Treatment

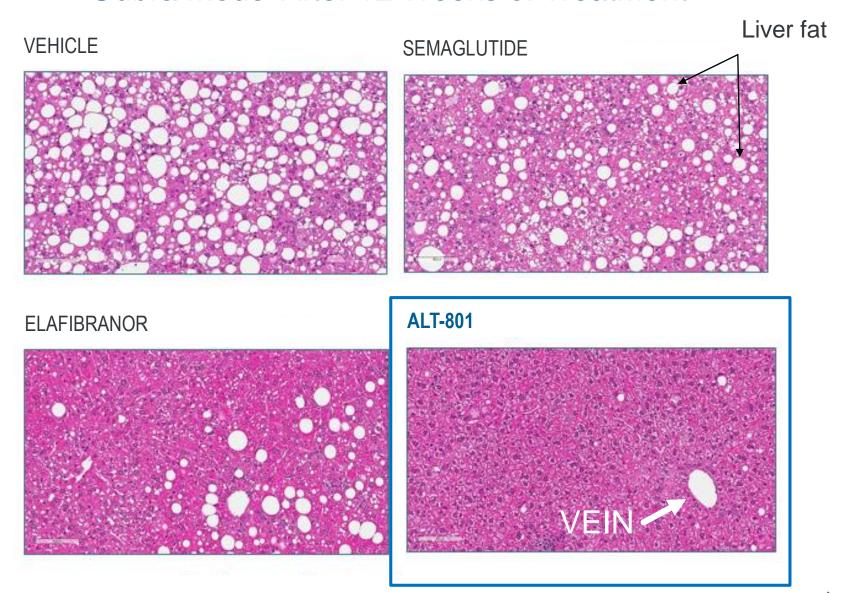


- More than 2x the weight loss of semaglutide
- Body weight decreased to normal lean range



GREATER REDUCTION IN LIVER FAT

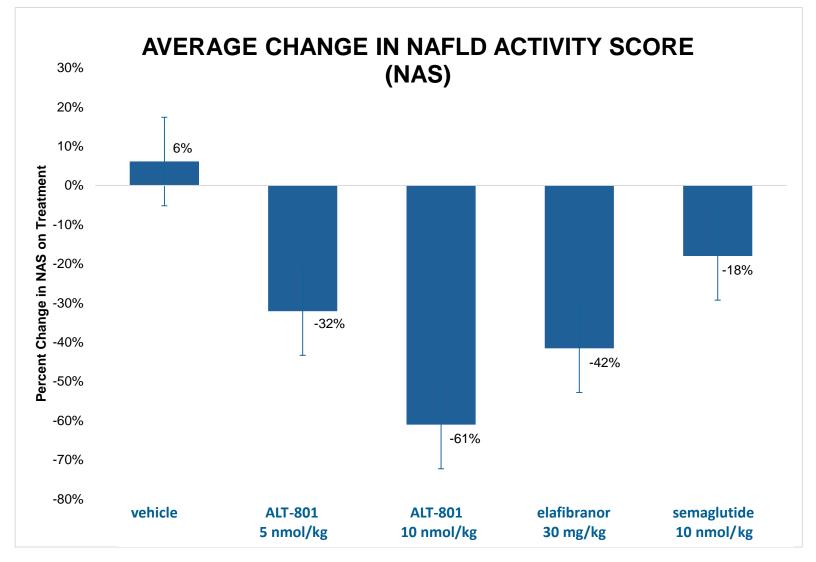
Gubra Model After 12 Weeks of Treatment





GREATER REDUCTION IN NAFLD ACTIVITY SCORE (NAS)

Gubra Model After 12 Weeks of Treatment



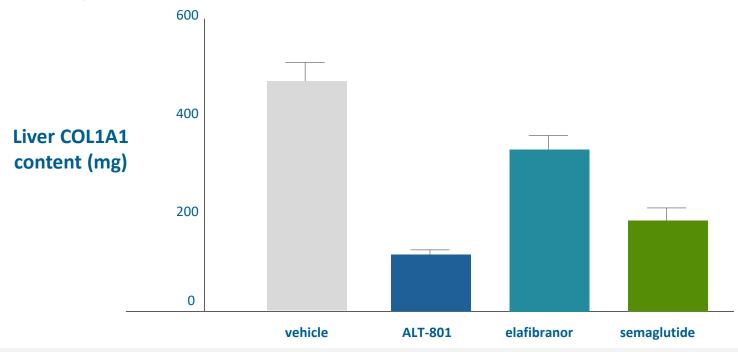
Score of each component of the NAS: Steatosis(0–3); Lobular inflammation:(0–3;, Ballooning: (0–2) The % is based on mean of individual animal responses pre- and post-treatment biopsy.



GREATER IMPACT ON FIBROSIS

Gubra Model After 12 Weeks of Treatment

QUANTITATIVE REDUCTION IN COLLAGEN FIBROSIS MARKER



ALT-801 showed **significant decreases** in Type 1 collagen, a key component of fibrosis

Similar pattern of effects were noted for galectin-3, a **marker for inflammation and fibrosis**



ALT-801 GLP-1/Glucagon Dual Agonist for NASH

Differentiated

- Balanced and potent dual GLP-1 and glucagon agonist
- Superior therapeutic activity in accepted preclinical models
- Novel peptide stabilization mechanisms
- PK indicates potential for better tolerability
- Weekly dosing

Development Plan

- File IND in 2H 2020
- Phase 1 study with mechanistic readout on liver fat and body weight in 1H 2021
- Prosecute 6 global supporting patent families
- Evaluate aligned disease indications including obesity and type 2 diabetes



HepTcell: T Cell Immunotherapeutic For Chronic Hepatitis B

Significant opportunity to improve current HBV cure rates

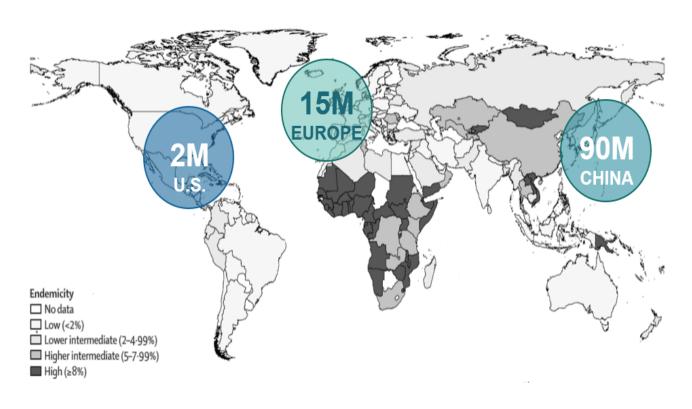
 Nearly 300 million people with chronic HBV infection worldwide

 Over 780,000 deaths/year due to cirrhosis and liver cancer

 Estimated prevalence of chronic HBV in USA is 2.2 million

257 million

HBV carriers worldwide

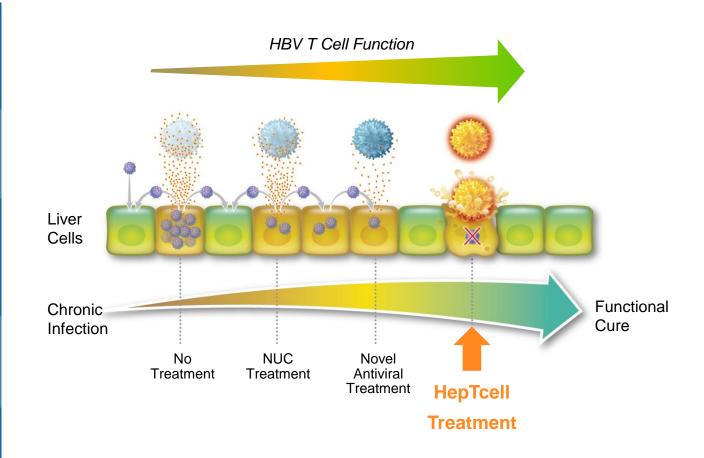




Currently Approved HBV Therapeutics Do Not Lead To A Cure

Immune activation will be required for significant impact

- Current antivirals prevent disease progression but rarely clear infection
- Novel direct-acting antivirals alone unlikely to provide functional cure
- Breaking T cell immune tolerance is key to functional cure
- HepTcell is designed to "wake up" dormant T-cells to eliminate infection





HepTcell: Phase 1 Safety And Immunogenicity Study

Activation of immune-tolerized T cells

Population



60 HBeAg⁻ chronic HBV patients

Well controlled on licensed antivirals (entecavir or tenofovir)

Design



3 injections 28 days apart

4 different regimens vs placebo and adjuvant alone

Results



All regimens well tolerated

No liver flares or autoimmune events

Increased T cell response to HBV peptides in adjuvanted regimens



HepTcell: Anti-HBV T-cell Response After 3 Injections

Clear activation of HBV-specific T cells

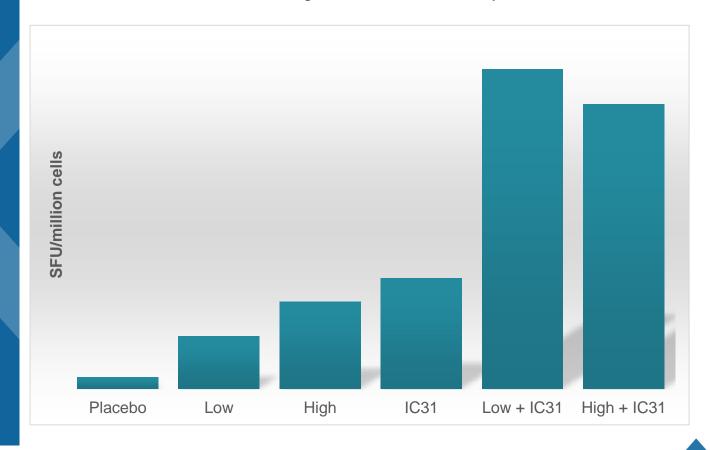
 HepTcell breaks immune tolerance in chronic hepatitis B patients

 T cell responses strongest when combined with IC31 adjuvant

 Activated T cells expected to recognize all HBV genotypes

IFN_γ ELISpot

Median Change from Baseline to Day 85





HepTcell Specific Immunotherapy For Chronic HBV

Differentiated

- Mechanism of action is complimentary to currently approved antivirals and other products in development
- Restores immune control of infection instead of targeting viral pathway
- Excellent safety profile, especially in comparison to other non-specific immunomodulators

Development Plan

- Exploit immune activation of HepTcell in combination with other novel HBV therapeutics
- File IND in 2020 following successful pre-IND meeting held with FDA in June 2019
- Prepare for Phase 2 program in expanded chronic HBV patient population
- Seek commercial partner with complementary therapeutic product

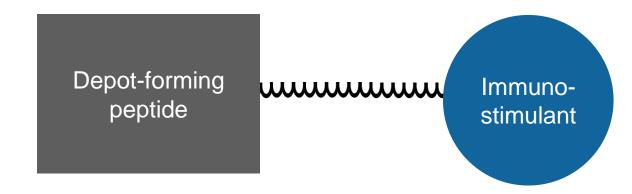




ALT 702: Anchored Immunostimulant Without Systemic Toxicity

Platform technology to improve safety and efficacy of immunostimulants

- Reverses tumor immunosuppression to elicit an anti-tumor immune response
- TLR7 and TLR7/8 immunostimulants has been limited by toxicity
- Synthetic peptide technology creates depot following administration
- Depot eliminates systemic effects while enhancing local immune stimulation

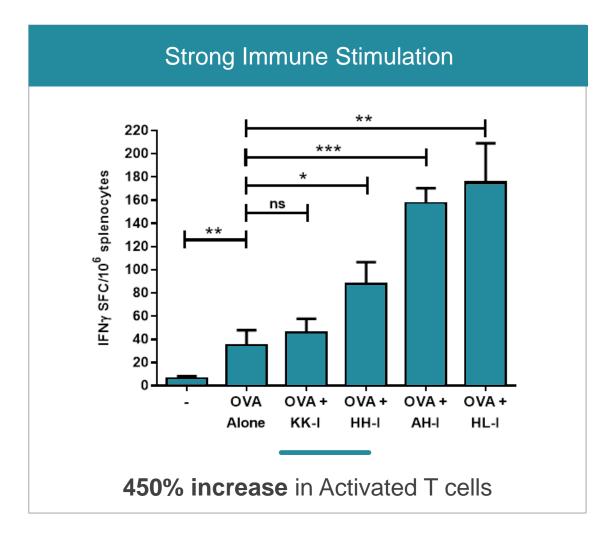


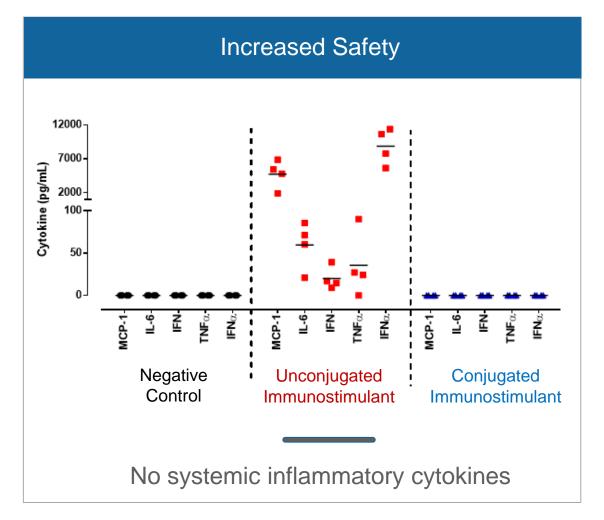
- TLR7/8
- TLR9
- STING
- Others



ALT 702: Anchored Immunostimulant Without Systemic Toxicity

Uncoupling immune-mediated efficacy from severe toxicity







ADVANTAGES OF ALT-702

- ➤ Potent TLR7/8 agonist for cancer immunotherapy
- Anchored approach prolongs immune stimulation while avoiding systemic toxicity
- Platform technology can be applied to other immunostimulants or therapeutics
- > Fully synthetic product Low COGs
- ➤ IND expected in 2021





NasoShield: Differentiated Anthrax Vaccine

Significant opportunity to improve protection in a bioterrorism event

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

NasoShield

- Only single-dose vaccine currently in development
- Intranasal spray
- Faster protection
- Superior logistics
 - No cold chain distribution
 - Self-administered/no injection required



NasoShield: Funded Through a Development Contract with BARDA

Phase 1b to be initiated in 2019

- 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 \$1.5 billion total potential contract value







NasoVAX: Innovative Approach Toward Intranasal Influenza Vaccine

Significant opportunity to improve vaccinations against a leading cause of death

 CDC estimates 1M hospitalizations and 79K deaths during 2017- 2018 flu season

- Since 2003, vaccine effectiveness ranges from 10% to 60%
- Most flu vaccines require a 9 month lead time to manufacture while NasoVAX is intended for a 3 month lead time



HEALTH CARE

Exclusive: Trump to order drive for improved flu vaccine



Flu shot only 36 percent effective, making bad year worse

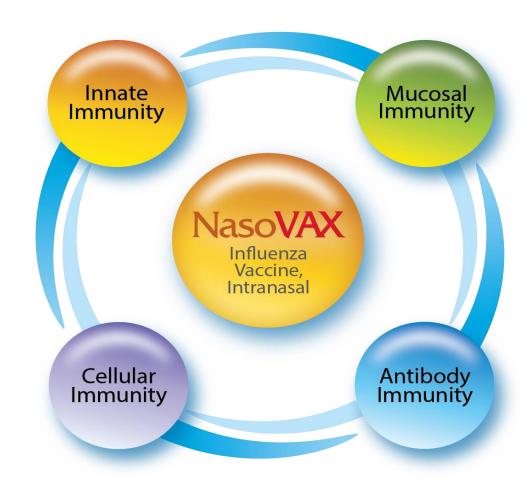


NasoVAX: Phase 2 Data Validates Multiple Levels of Differentiation

Potential for a more effective influenza vaccine through better and longer lasting immunity

Phase 2 Study Highlights

- HAI and microneutralization antibody similar to licensed Fluzone vaccine
- Durability of immune response greater than 12 months vs. 6 months for current vaccines
- Robust mucosal and cellular immunity induced unlike Fluzone
- Excellent safety profile, tolerability not different from placebo





Strong Intellectual Property Portfolio

Significant patent term remaining in all families

2 Granted US patents | Patent applications other territories | Expiry > 2035 **ALT-801** Granted US patent | Patent applications other territories | Expiry > 2033 **HepTcell** Granted US patent | Patent applications other territories | Expiry > 2034 **ALT-702 NasoShield** Granted US, EP, JP patent | Expiry > 2032 Granted US, EP, JP patent | Patent applications other territories | Expiry > 2032 **NasoVAX**



FINANCIAL HIGHLIGHTS

Altimmune is well positioned to advance multiple product candidates



\$42 MILLION CASH ON HAND at June 30, 2019



\$10 MILLION ANNUAL REVENUE

in each of last 2 years from U.S. government development contracts



15.3 MILLION SHARES OUTSTANDING

and 10.1 million warrants for 25.4 million shares on a fully diluted basis



R&D FOCUSED

27 employees with 19 primarily engaged in research and development



Strong Executive Management Team

Vipin K. Garg, PhD

President and Chief Executive Office



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





























