

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549**

**FORM 8-K**

**CURRENT REPORT  
Pursuant to Section 13 or 15(d)  
of the Securities Exchange Act of 1934**

**Date of Report (Date of earliest event reported): January 13, 2020**

**Gritstone Oncology, Inc.**  
(Exact name of registrant as specified in its charter)

**Delaware**  
(State or other jurisdiction  
of incorporation)

**001-38663**  
(Commission  
File Number)

**47-4859534**  
(IRS Employer  
Identification Number)

**5858 Horton Street, Suite 210  
Emeryville, California 94608**  
(Address of principal executive offices, including Zip Code)

**Registrant's telephone number, including area code: (510) 871-6100**

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, par value \$0.0001	GRTS	The Nasdaq Global Select Market

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

**Item 8.01 Other Events.**

Spokespersons of Gritstone Oncology, Inc. plan to present the information in the presentation slides attached hereto as Exhibit 99.1 at various investor and analyst meetings scheduled during the week of January 13, 2020.

A copy of the presentation is filed as Exhibit 99.1 to this Current Report on Form 8-K and is incorporated by reference herein.

**Item 9.01 Financial Statements and Exhibits.**

<u>Exhibit No.</u>	<u>Description</u>
99.1	<a href="#"><u>Company Presentation – JP Morgan Healthcare Conference January 2020.</u></a>

**SIGNATURES**

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

**GRITSTONE ONCOLOGY, INC.**

Date: January 13, 2020

By: /s/ Jean-Marc Bellemin  
Jean-Marc Bellemin  
Executive Vice President, Chief Financial Officer



# Gritstone

**38<sup>th</sup> Annual J.P. Morgan  
Healthcare Conference**

JANUARY 16, 2020



## Safe Harbor and Forward-Looking Statements

This presentation contains forward-looking statements including, but not limited to, statements related to our preclinical and clinical product candidates, GRANITE, SLATE, and our bispecific antibody program. All statements other than statements of historical facts contained in this presentation, including statements regarding the timing of immunogenicity and clinical data for GRANITE and SLATE, identification of development candidate for our bispecific antibody program, our future results of operations and financial position, business strategy, prospective products, availability of funding, clinical trial results, product approvals and regulatory pathways, timing and likelihood of success, plans and objectives of management for future operations, future results of current and anticipated products, and our ability to create value are forward-looking statements. Because forward-looking statements are inherently subject to risks, uncertainties and other important factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. The events and circumstances reflected in our forward-looking statements may not be achieved or occur and actual results could differ materially from those projected in the forward-looking statements.

Except as required by applicable law, we do not plan to publicly update or revise any forward-looking statements contained herein, whether as a result of any new information, future events, changed circumstances or otherwise. For a further description of the risks and uncertainties that could cause actual results to differ from those expressed in these forward-looking statements, as well as risks relating to the business of the company in general, see Gritstone's periodic filings with the Securities and Exchange Commission (the "SEC"), including its Quarterly Report filed on November 12, 2019 and any current and periodic reports filed thereafter.

# Executive Summary

## Phase I Clinical Programs with Neoantigen-based Therapies



### Personalized GRANITE

Unprecedented neoantigen-specific CD8+ T cell generation in cancer patients



### Off-the-Shelf SLATE

Initial focus on tumors with high frequency of KRAS mutation

## Engine for Pipeline & Partnering with Gritstone EDGE™



### BiSpecific Antibodies

Tumor-specific binding through identification of HLA-peptide targets and high-quality antibodies



### Cell Therapy

Collaboration with bluebird bio for tumor-specific targets and natural T cell receptors for cellular-based therapies

## Operational Strength



### Manufacturing and Testing Facility

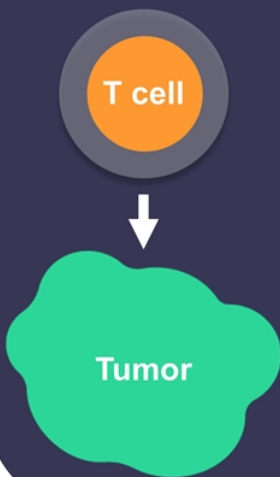
~43,000 sq. ft. fully integrated GMP biomanufacturing facility with QC testing



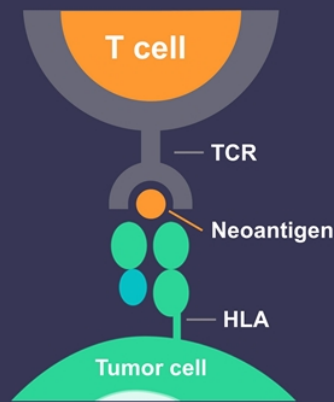
~\$151.5MM in cash at end of 3Q19

# Tumor Neoantigens are Specific to Tumors and Readily Recognized by Normal T Cells

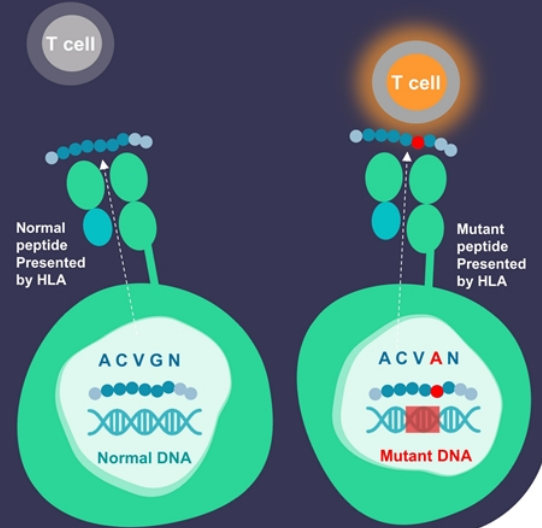
We know T cells can kill tumors



We know T cells recognize short target peptides presented by HLA molecules

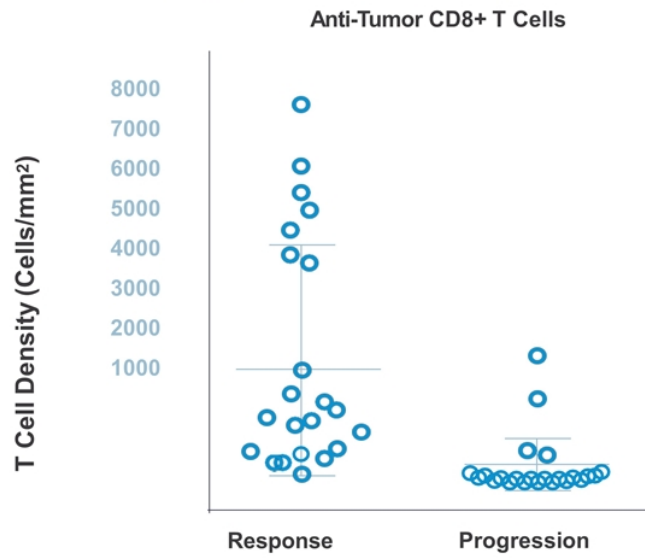


...and now we know that mutant peptides are distinctive tumor-specific targets - Neoantigens



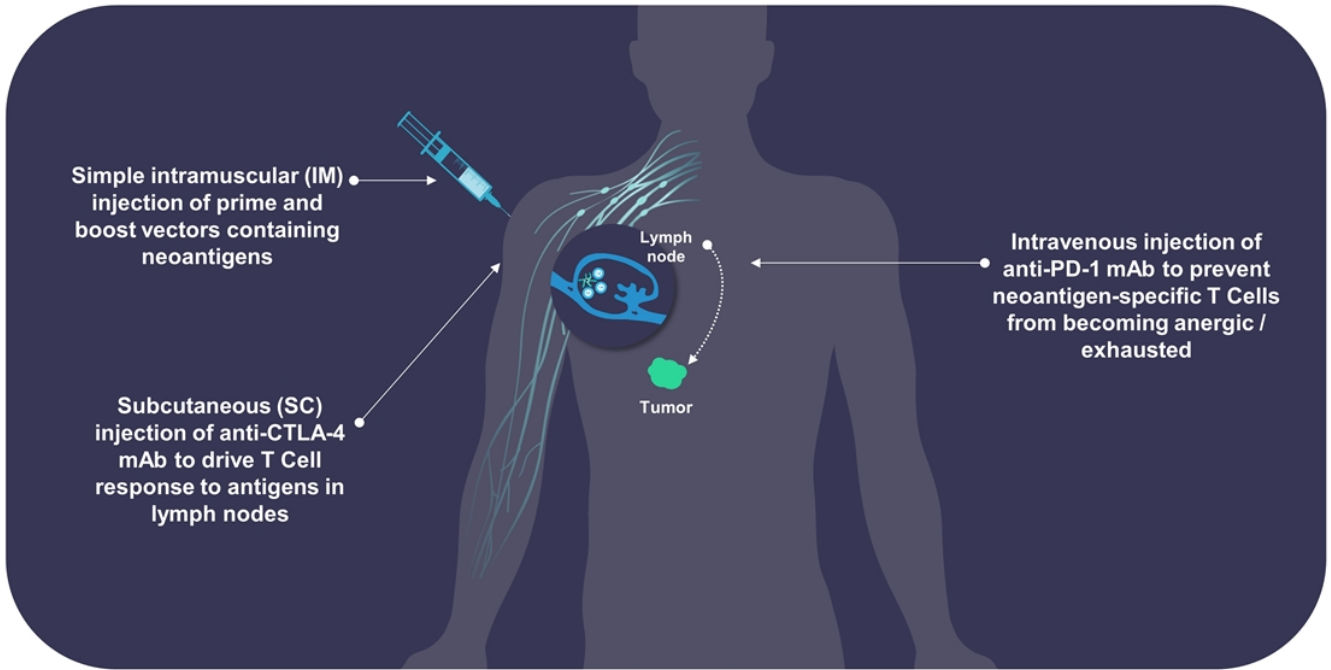
# Unfortunately, Many Solid Tumor Patients Lack Neoantigen-Specific T Cells and Will Not Respond to Checkpoint Inhibitor (CPI) Alone

*Response in Melanoma Patients Treated with Anti-PD-1 Antibody (Pembrolizumab) is Associated with Anti-Tumor CD8+ T Cell Infiltration of the Tumor at Baseline*

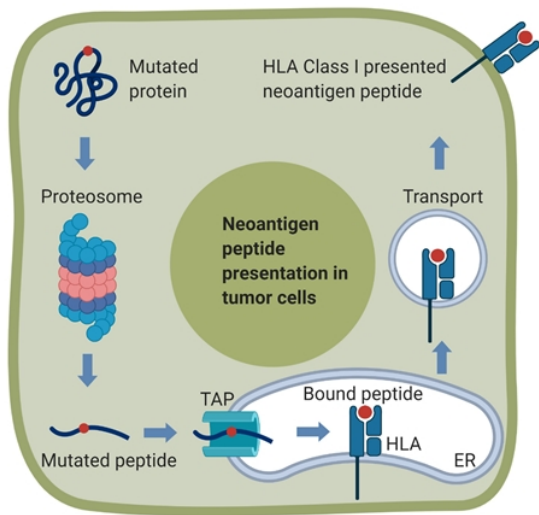




# Proposed Solution: Use Neoantigen-Based Immunotherapy to Drive Abundant, Active, Neoantigen-Specific T Cells into Tumors



# Gritstone's EDGE™ Leads The Field in Neoantigen Identification



EDGE is a neural network model of HLA peptide presentation



nature  
biotechnology

Deep learning using tumor HLA peptide mass spectrometry datasets improves neoantigen identification

*Bulik-Sullivan, et. al. December 2018*

## (12) **United States Patent** Yelensky et al.

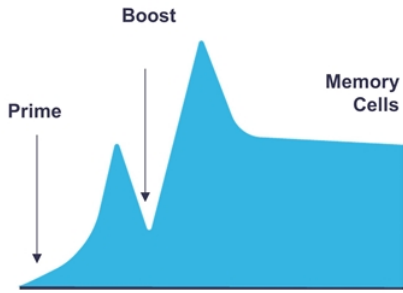
(10) **Patent No.:** US 10,055,540 B2  
(45) **Date of Patent:** Aug. 21, 2018

- |   |  |
|---|--|
| <p>(54) <b>NEOANTIGEN IDENTIFICATION, MANUFACTURE, AND USE</b></p> <p>(71) Applicant: <b>Gritstone Oncology, Inc.</b>, Emeryville, CA (US)</p> <p>(72) Inventors: <b>Roman Yelensky</b>, Newton, MA (US); <b>Adnan Derti</b>, Dedham, MA (US); <b>Brendan Bulik-Sullivan</b>, Cambridge, MA (US); <b>Jennifer Busby</b>, Burlington, MA (US)</p> <p>(73) Assignee: <b>Gritstone Oncology, Inc.</b>, Emeryville, CA (US)</p> | <p>8,287,883 B2 10/2012 Dubensky, Jr. et al.</p> <p>8,583,380 B2 11/2013 Stephan et al.</p> <p>8,680,239 B2 3/2014 Mueller et al.</p> <p>8,741,556 B2 6/2014 Mann et al.</p> <p>8,768,629 B2 7/2014 Von Hoff et al.</p> <p>8,796,414 B2 8/2014 Johnston</p> <p>8,821,864 B2 9/2014 Von Knebel-Doeberitz et al.</p> <p>8,840,881 B2 9/2014 Jooss et al.</p> <p>8,926,993 B2 1/2015 Dubensky, Jr. et al.</p> <p>9,017,660 B2 4/2015 Shahabi et al.</p> <p>9,063,149 B2 6/2015 Mann et al.</p> <p>9,084,747 B2 7/2015 Shahabi et al.</p> <p>9,115,402 B2 8/2015 Hacohen et al.</p> <p>9,161,974 B2 10/2015 Dubensky et al.</p> <p>9,175,088 B2 11/2015 Sahin et al.</p> <p>9,194,004 B2 11/2015 Sahin et al.</p> <p>9,198,960 B2 12/2015 Dubensky, Jr. et al.</p> |
|---|--|

# Gritstone Has Developed a Unique, Potent Platform for Delivering Antigens to the Immune System to Drive a Strong T Cell Response



## Heterologous Prime/Boost

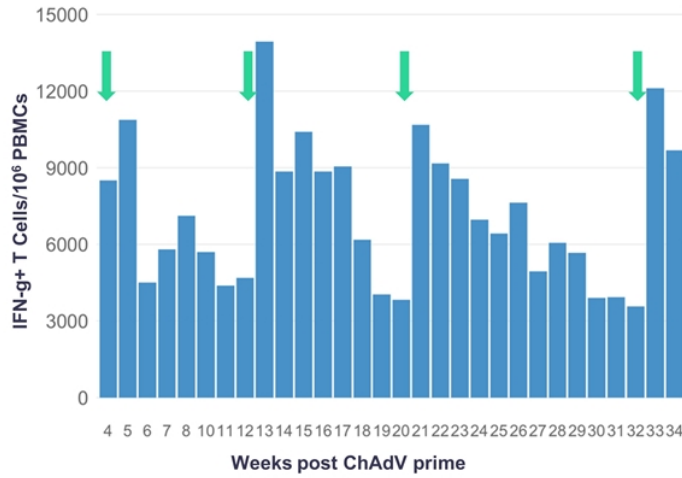


Chimpanzee Adenovirus (ChAdV)



Self-amplifying mRNA (SAM)

## Non-Human Primate Experiment: 6 SIV antigens ChAdV + SAM + anti-CTLA-4



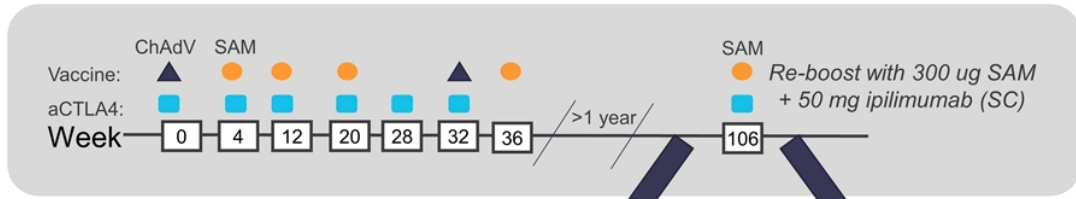
↓ Delivery of SAM boost + anti-CTLA-4

Up to 8% of peripheral CD8+ T cells are antigen-specific

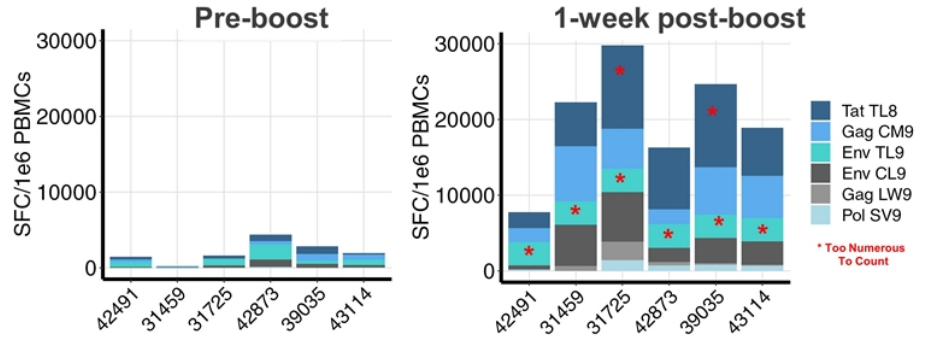
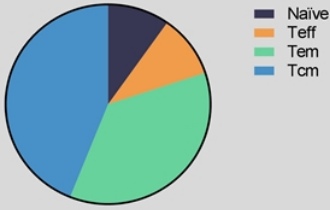
PBMC: peripheral blood mononuclear cell  
CD8+ specific T cell responses (overnight stimulation with short peptides of 8-12 amino acids)



# Durable T Cell Memory Population Elicited: Very Strong Boost of NHP Immune Response Observed 2 Years After Initial Prime



Antigen-Specific Memory T-cell Populations Pre-Boost

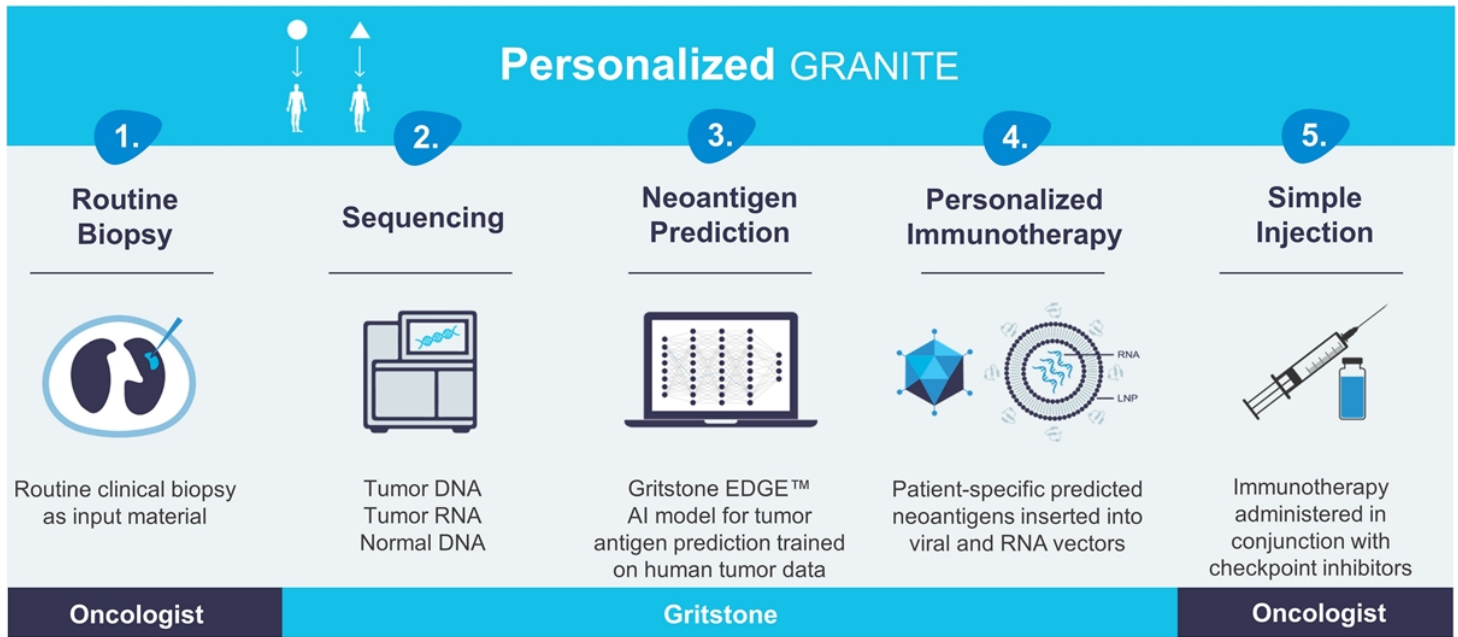


5 – 18% (mean - 12%) of CD8 T Cells are antigen-specific post boost

A photograph of a smiling man in a hospital bed, with a nurse standing by his side. The image is overlaid with a semi-transparent blue filter. The word "GRANITE" is written in white, bold, uppercase letters on the left side of the image.

**GRANITE**

# Many Solid Tumor Patients Will Have Their Own Unique Neoantigens Enabling Personalized Immunotherapy

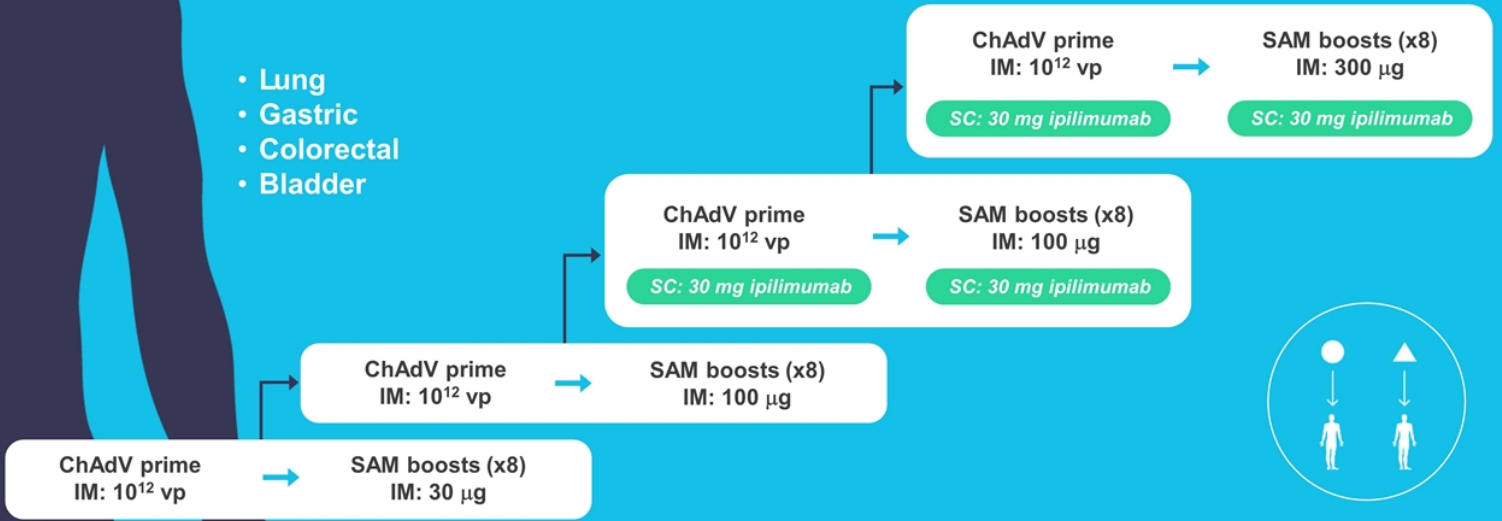


# GRANITE Phase 1: Dosing, Safety and Immunogenicity

Rapid assessment of early clinical activity across advanced tumor types in combination with checkpoint inhibitors

All patients receive nivolumab (anti-PD-1)

- Lung
- Gastric
- Colorectal
- Bladder



# GRANITE Prime/Boost Immunotherapy in Combination with Nivolumab is Well Tolerated with AEs Indicative of an Inflammatory Response

Demographics	n = 6
Age (mean, range)	66 (50-76)
Gender (Female/Male)	2/4
# of doses	
ChAdV	6
SAM	20
Nivolumab (IV)	24
Ipilimumab (SC)	1
Tumor Types	
NSCLC	1
Microsatellite stable (MSS)-CRC	2
Gastroesophageal adenocarcinoma (GEA)	3
Prior anti-PD-(L)1 therapy	1

Safety	n = 6	
	Grade 1/2	Grade 3/4
Treatment-related adverse events		
Fever	7	0
Skin rash	2	0
Diarrhea	2	0
Fatigue	2	0
CK Elevation	0	1 <sup>a</sup>
Injection-site reactions	1	0
SAEs		
Fever	2 <sup>b</sup>	0
Heart Failure	0	1 <sup>c</sup>

No DLTs to date

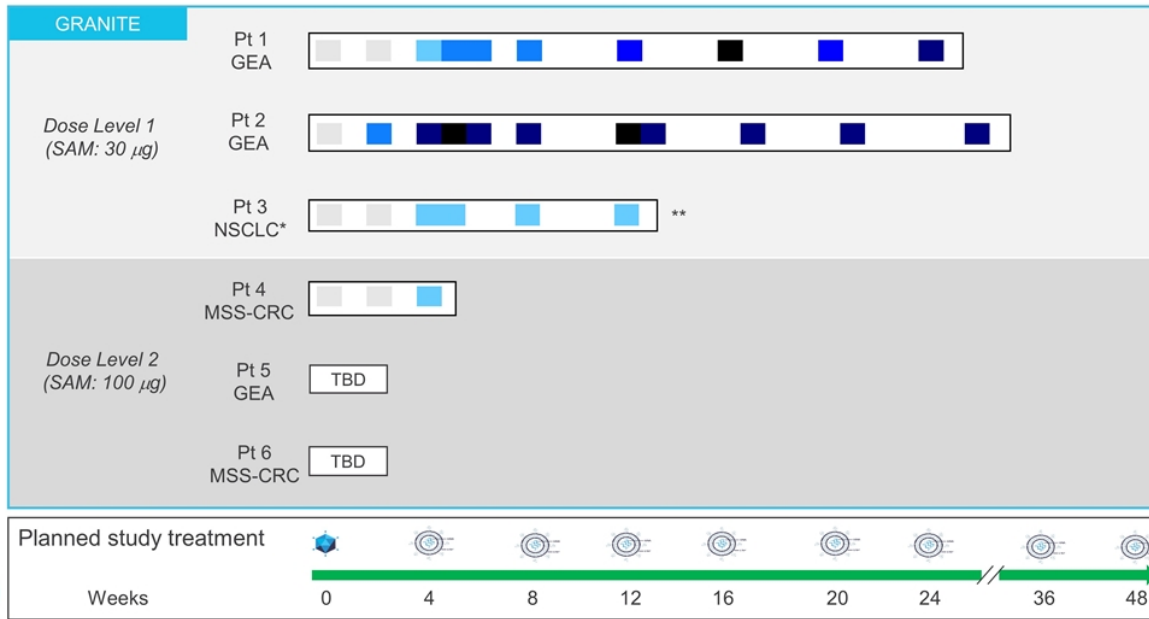
<sup>a</sup> Self-limiting, asymptomatic increase in creatine kinase

<sup>b</sup> Both SAEs of fever occurring in the same patient

<sup>c</sup> Not treatment-related

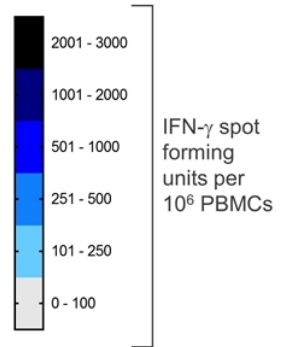


# Priming with ChAdV Induces Rapid CD8<sup>+</sup> T Cell Response and SAM Boosts Further Increase CD8<sup>+</sup> T Cell Levels



- ChAdV 1x10<sup>12</sup> vp
- SAM 30 µg / 100 µg
- Nivolumab 480 mg Q4W IV

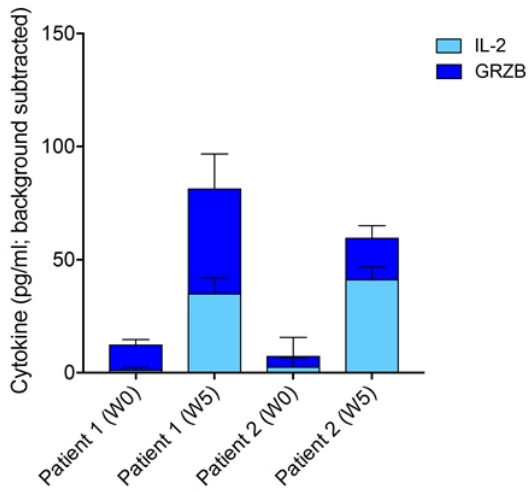
Ex vivo (overnight) ELISpot for CD8<sup>+</sup> T Cell responses



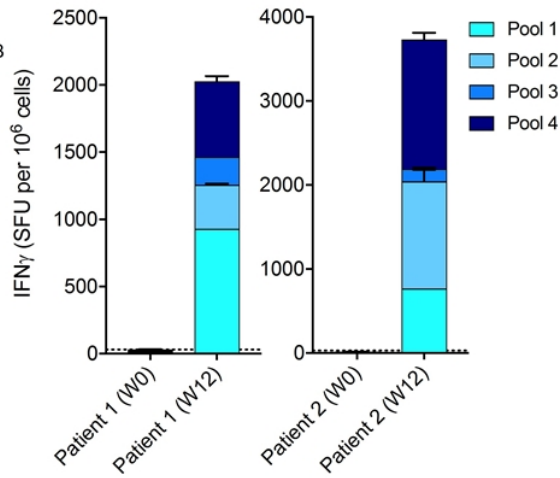
\*Patient progressed on prior anti-PD-(L)1 antibody  
 \*\*Patient had high pre-existing cross-reactive immunity to ChAdV Hexon vp, viral particles

# Induced CD8<sup>+</sup> T Cells Have Cytotoxic Potential and Recognize Multiple Neoantigens

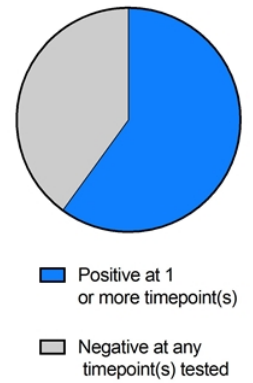
*T Cells stimulated in ex vivo ELISpot produce IL-2 and Granzyme B*



*Ex vivo ELISpot responses to 4 different peptide pools show polyclonal responses*



*Patient 2: 12 of 20 neoantigens elicit CD8<sup>+</sup> T Cell responses\**



\*Full deconvolution possible due to voluntary leukapheresis from patient 2

# GRANITE Patient 1, Dose Level 1: Stable Disease for 6 Months

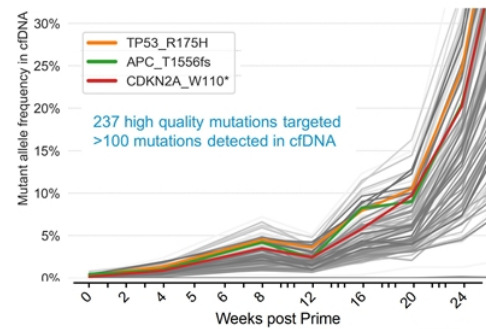
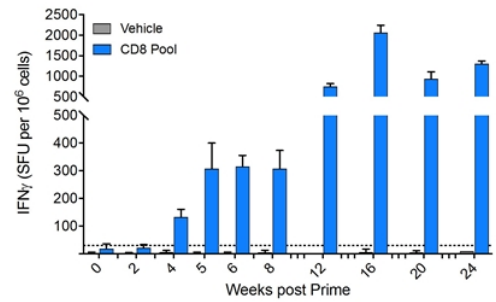
76-year old male with metastatic gastroesophageal junctional adenocarcinoma

## Prior Therapy

- Partial response to 1<sup>st</sup> Line FOLFOX
- Received concomitant 5-FU with first two doses of study treatment

## GRANITE Response

- Best overall response: stable disease
- Progressive disease at week 24
- Grade 2 skin rash requiring holding nivolumab for boosts 5 and 6 and introducing IV steroids after boost 5



# GRANITE Patient 2, Dose Level 1: Disease Control for 8 Months So Far

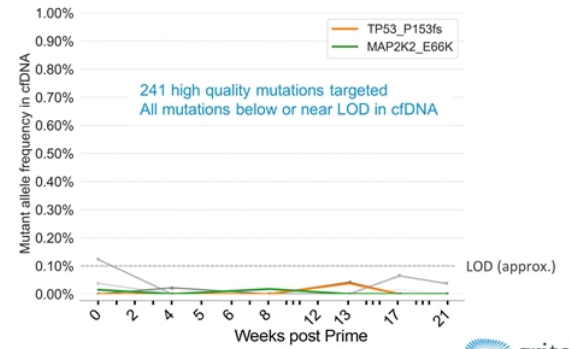
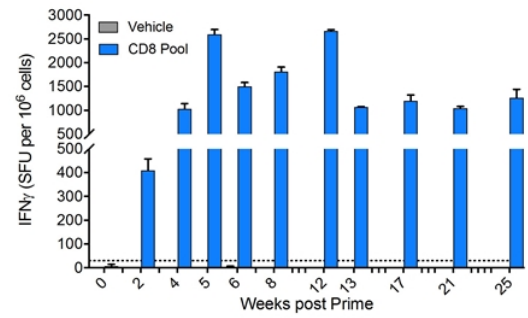
## 60-year old male with metastatic gastroesophageal junctional adenocarcinoma

### Prior Therapy

- Partial response to 1<sup>st</sup> Line FOLFOX followed by complete surgical resection of previously inoperable tumor followed by 3 months of FOLFOX
- No radiologic evidence of disease at study entry

### GRANITE Response

- Best overall response: no evidence of disease
- Asymptomatic grade 3/4 CK elevation and thrombocytopenia (from pre-existing condition) resulted in 9-week delay between boosts 1 and 2



# GRANITE Patient 3, Dose Level 1: Unconfirmed PD; Treated Beyond Progression with Apparent Lesion Cavitation

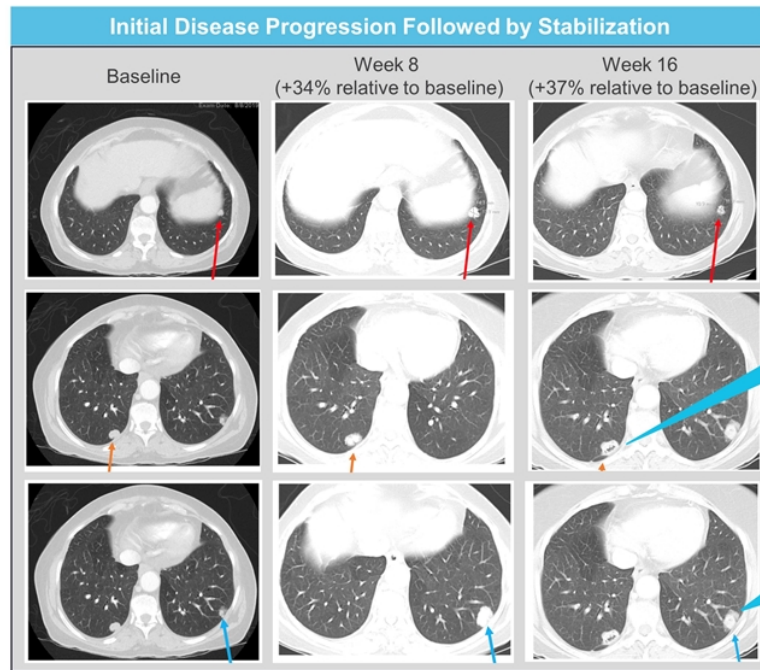
72-year old female diagnosed with Stage IIIB NSCLC and progression following chemoradiation and durvalumab

### Prior Therapy

- Received subsequent carboplatin/gemcitabine, commenced study treatment upon progression

### GRANITE Response

- Progressive disease at week 8, but clinically stable and was treated beyond progression with only further increase of 3% at week 16
- Grade 2 fever related to ChAdV and nivolumab

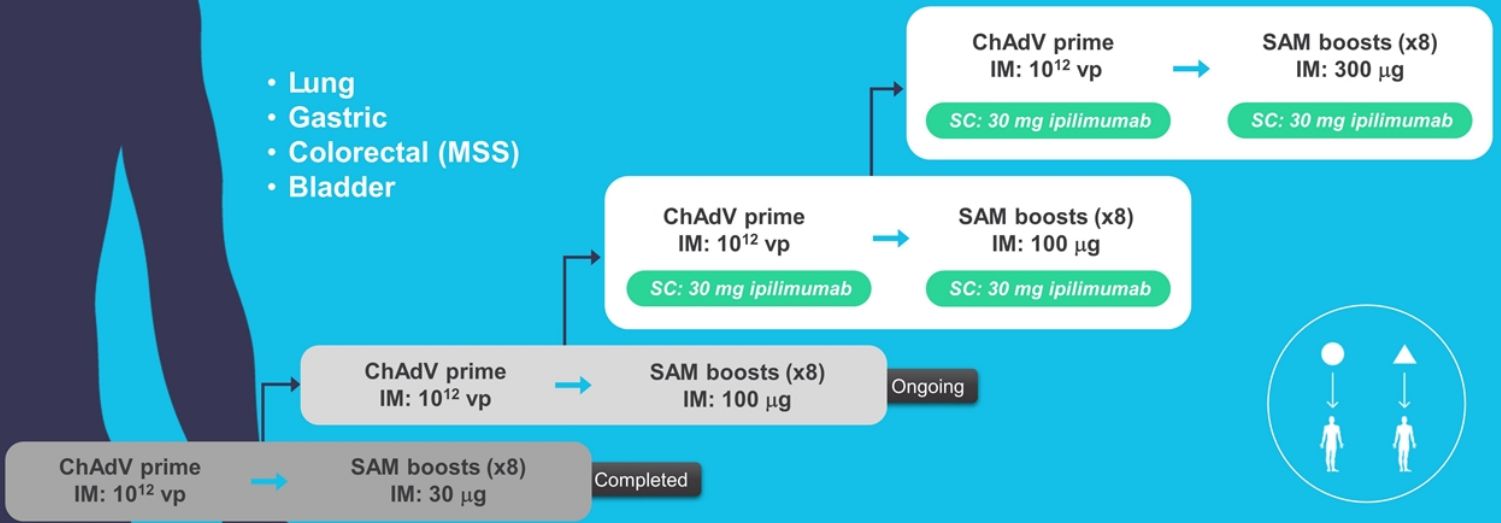


# Dose Escalation Continues in GRANITE

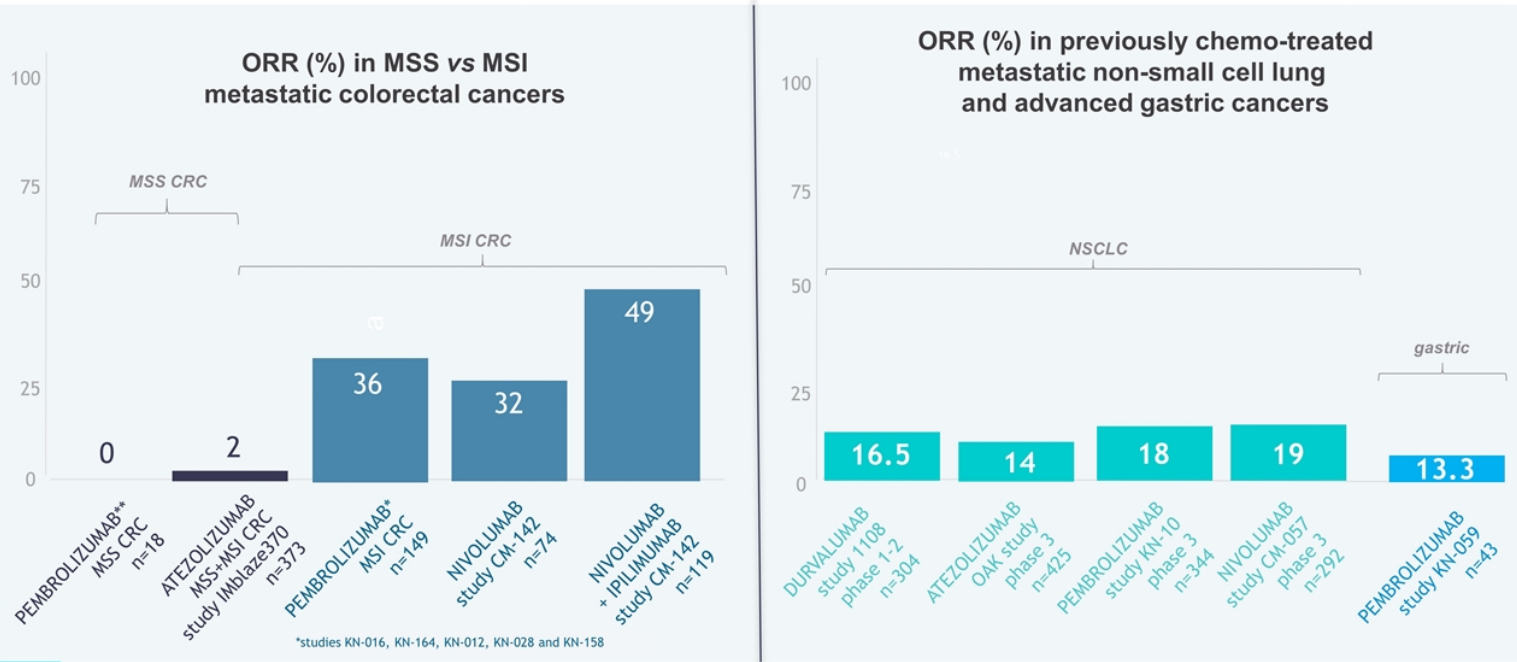
All sites actively screening, vaccine manufacturing underway

All patients receive nivolumab (anti-PD-1)

- Lung
- Gastric
- Colorectal (MSS)
- Bladder

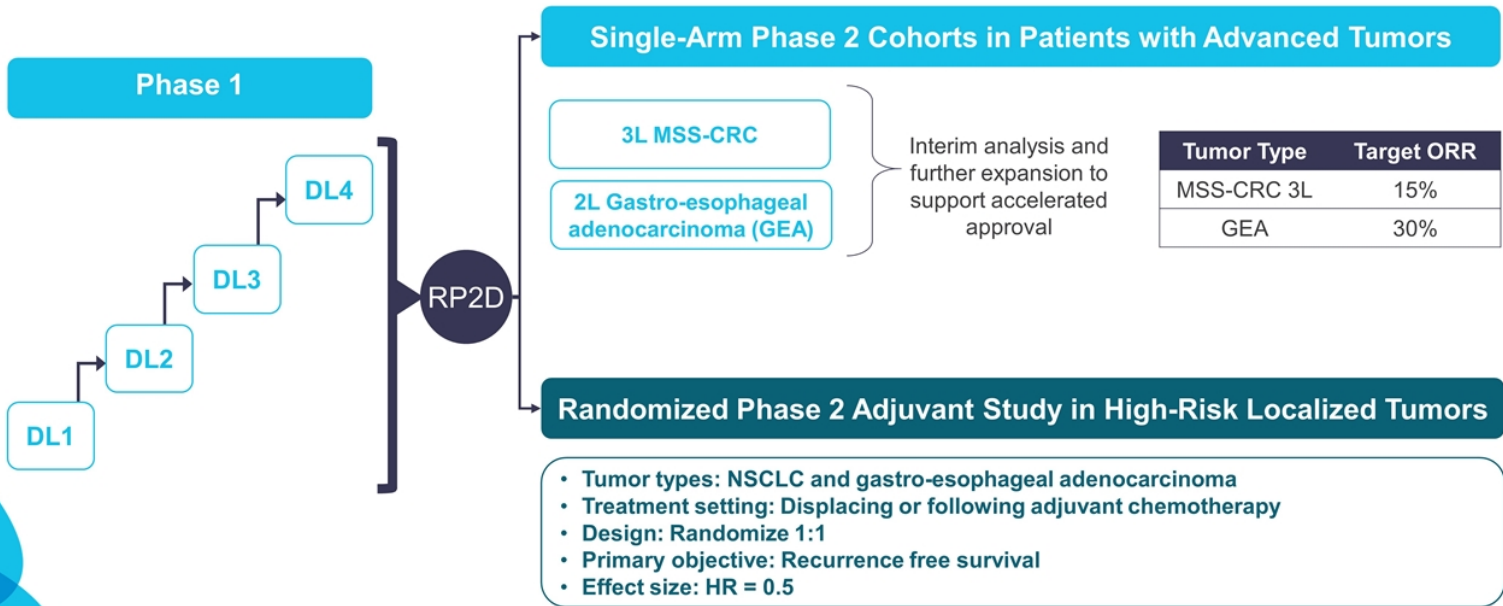


# The Efficacy of a Neoantigen Immunotherapy in Combination with Immune Checkpoint Inhibitors can be Inferred in the Right Context



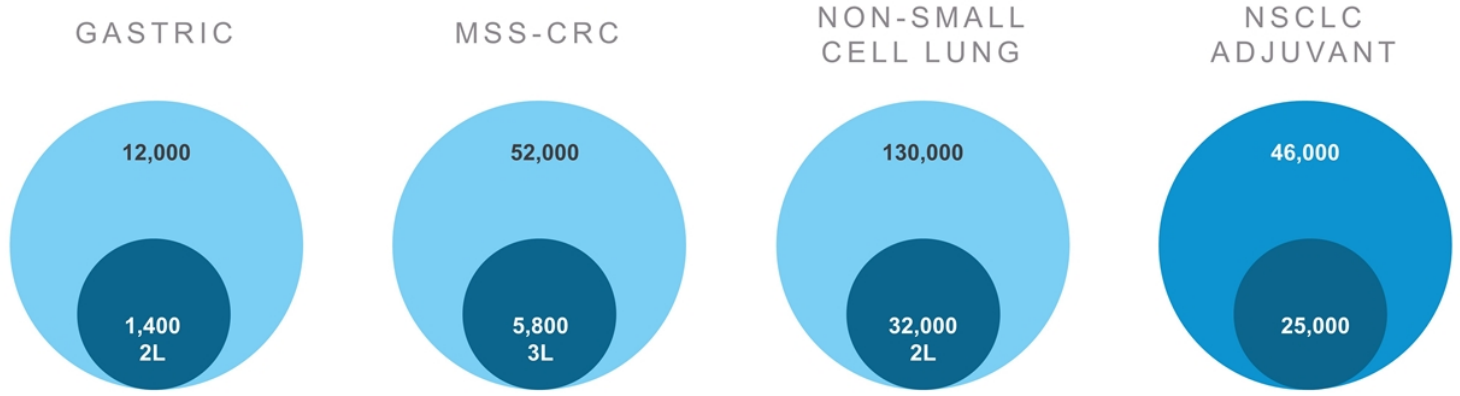
# In Advanced Tumor Types, GRANITE Phase 2 is Expected to Begin 2H20

Focus is on adjuvant trial(s) plus tumor types with potential for accelerated approval path





# Compelling U.S. Market Opportunity for GRANITE



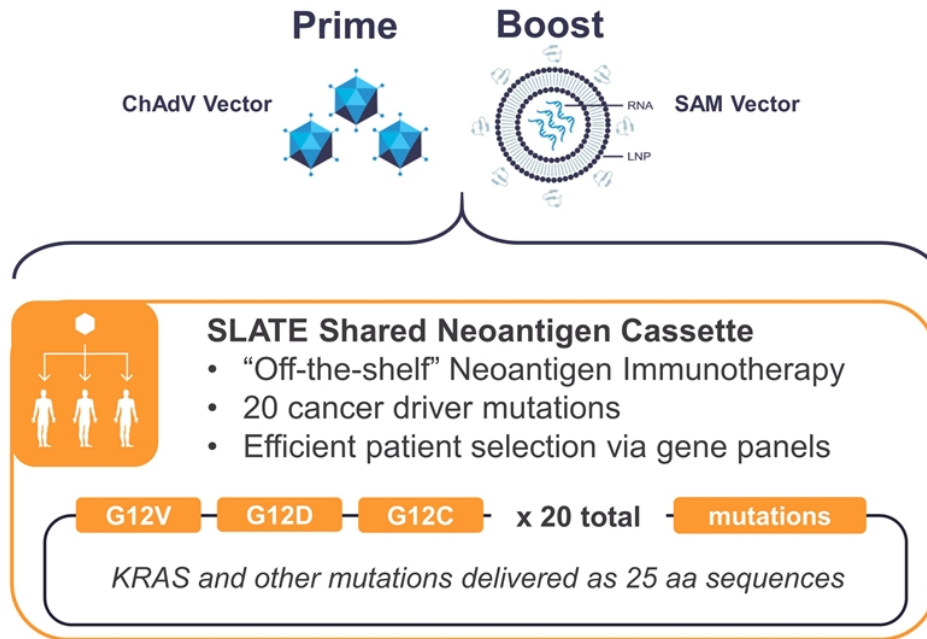
	2028
<ul style="list-style-type: none"> <li>Annual Mortality</li> <li>Annual Incidence Regional Disease</li> <li>Neoantigen Therapy Eligible / Year</li> </ul>	<p><b>Total Potential Patient Population Per Year (All indications)</b> &gt; 64,000</p> <p><b>Total U.S. Market Opportunity Per Year in bn\$ (*)</b> &gt; \$10Bn</p>





SLATE

# SLATE Delivers Shared Neoantigens Using Gritstone's Prime/Boost Platform



# SLATE Product Concept

## One Product – Many Selected Patients

### Common Driver Mutation

#### KRAS

G12 D

G12 A

G12 C

G12 V

β-CATENIN

TP53

Other genes

×

### Class I HLA Molecule

#### HLA - A

A\* 01:01

A\* 02:01

A\* 11:01

#### HLA - B

B\* 08:01

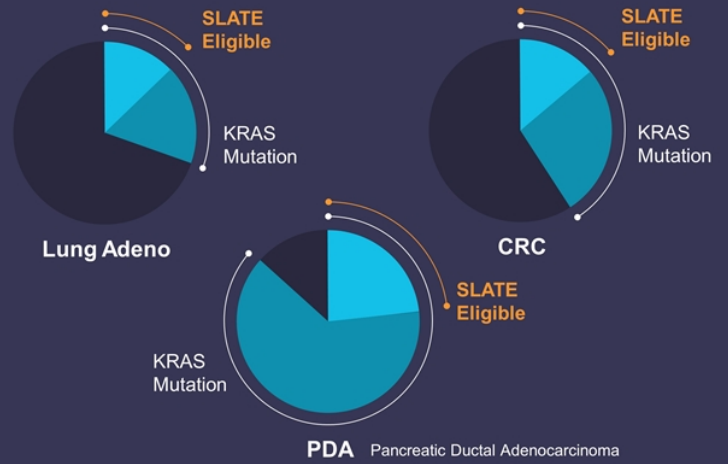
B\* 35:01

#### HLA - C

C\* 01:02

C\* 08:02

### SLATE Patient Selection for KRAS mutations



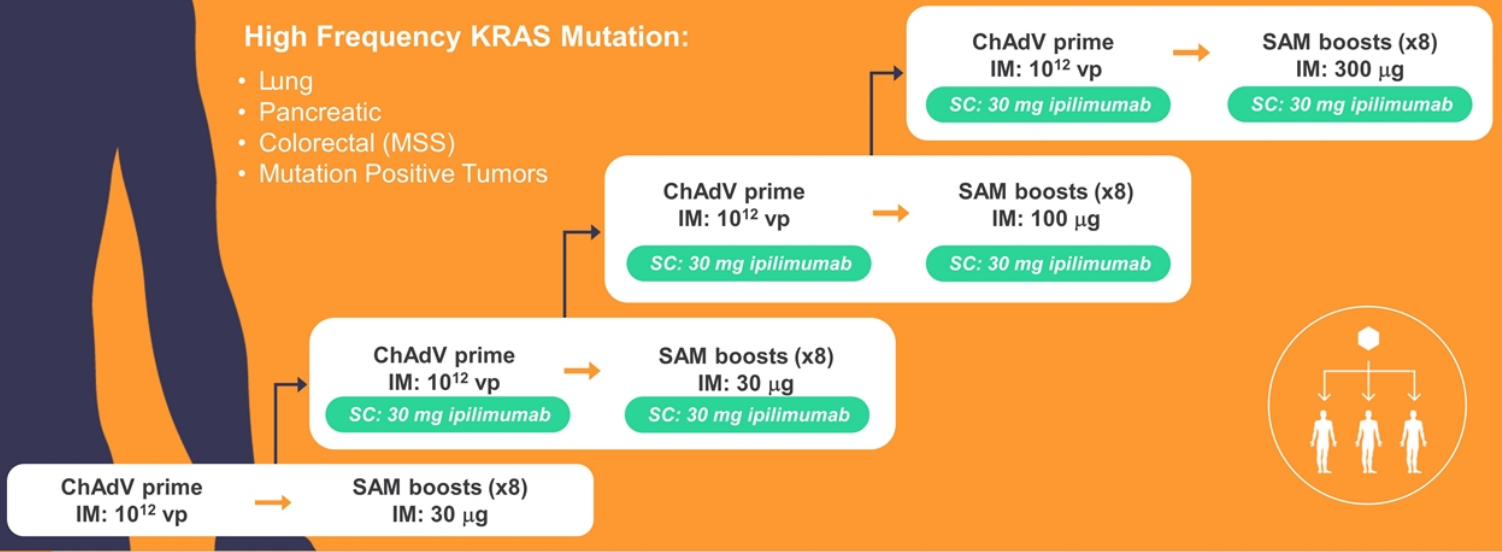
# SLATE Phase 1: Dosing, Safety and Immunogenicity

Rapid assessment of early clinical activity with potential for quick to registration path in Phase 2 expansion cohorts

All patients receive nivolumab (anti-PD-1)

## High Frequency KRAS Mutation:

- Lung
- Pancreatic
- Colorectal (MSS)
- Mutation Positive Tumors



# SLATE Prime/Boost Immunotherapy in Combination with Nivolumab and Ipilimumab Well Tolerated To Date

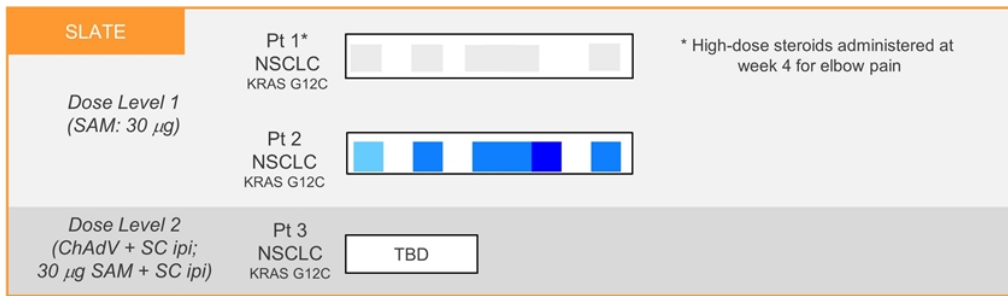
Demographics	n = 3
Age (mean, range)	71 (64-83)
Gender (Female/Male)	1/2
# of doses	
ChAdV	3
SAM	6
Nivolumab (IV)	9
Ipilimumab (SC)	3
Tumor and Mutation Types	
NSCLC • KRAS G12C	3
Prior anti-PD-(L)1 therapy	3




Safety	n = 3	
	Grade 1/2	Grade 3/4
Treatment-related adverse events		
Myalgia	1	0
Pruritus	1	0
SAEs		
Cervical Fracture	0	1 <sup>a</sup>

**No DLTs  
to date**

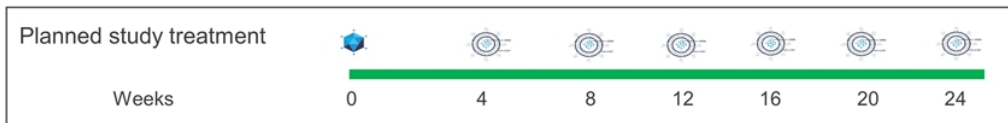
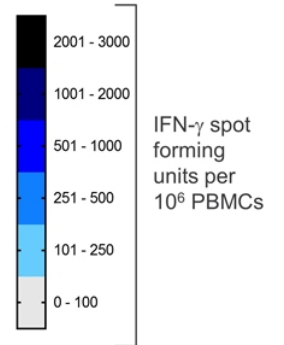
<sup>a</sup> Not treatment-related

# SLATE: Single Neoantigen Capable of Driving Strong CD8+ T Cell Response



-  ChAdV  $1 \times 10^{12}$  vp
-  SAM 30  $\mu$ g
-  Nivolumab 480 mg Q4W IV

Ex vivo (overnight) ELISpot for CD8+ T cell responses



# SLATE Patient 2, Dose Level 1: ChAdV Prime Induces Strong *ex vivo* CD8<sup>+</sup> T Cell Responses Boosted by 30 $\mu$ g Dose of SAM

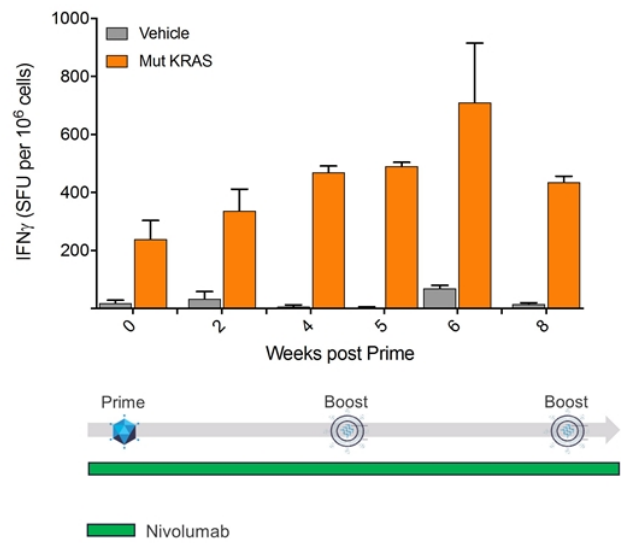
84-year old female with stage IV NSCLC; KRAS G12C

## Prior Therapy

- Pembrolizumab (best response = PD)
- Anti-TIGIT (best response = SD)
- Carboplatin/pemetrexed/SBRT (best response = PR)
- Disease progression following chemotherapy

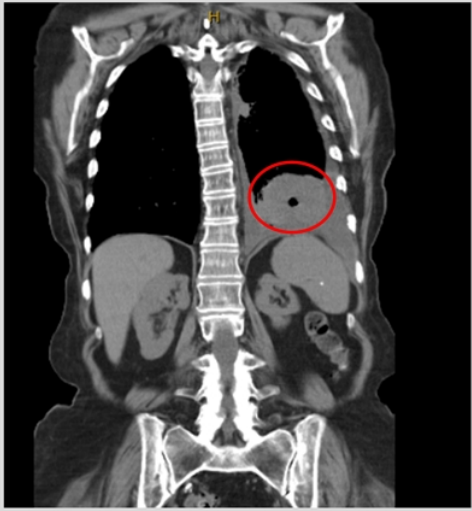
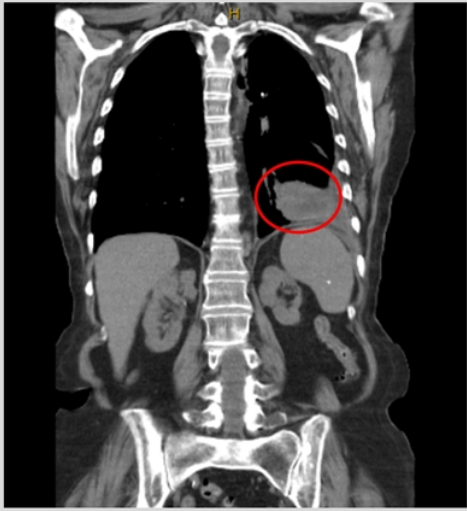
## SLATE Response

- 20% tumor reduction at week 8
- Grade 2 pruritis





# SLATE Patient 2, Dose Level 1: ~20% Sustained Tumor Shrinkage

Baseline	Week 8	Week 16
95 mm*	76 mm* (-20% relative to baseline)	77 mm* (-19% relative to baseline)
		<p>image pending</p>

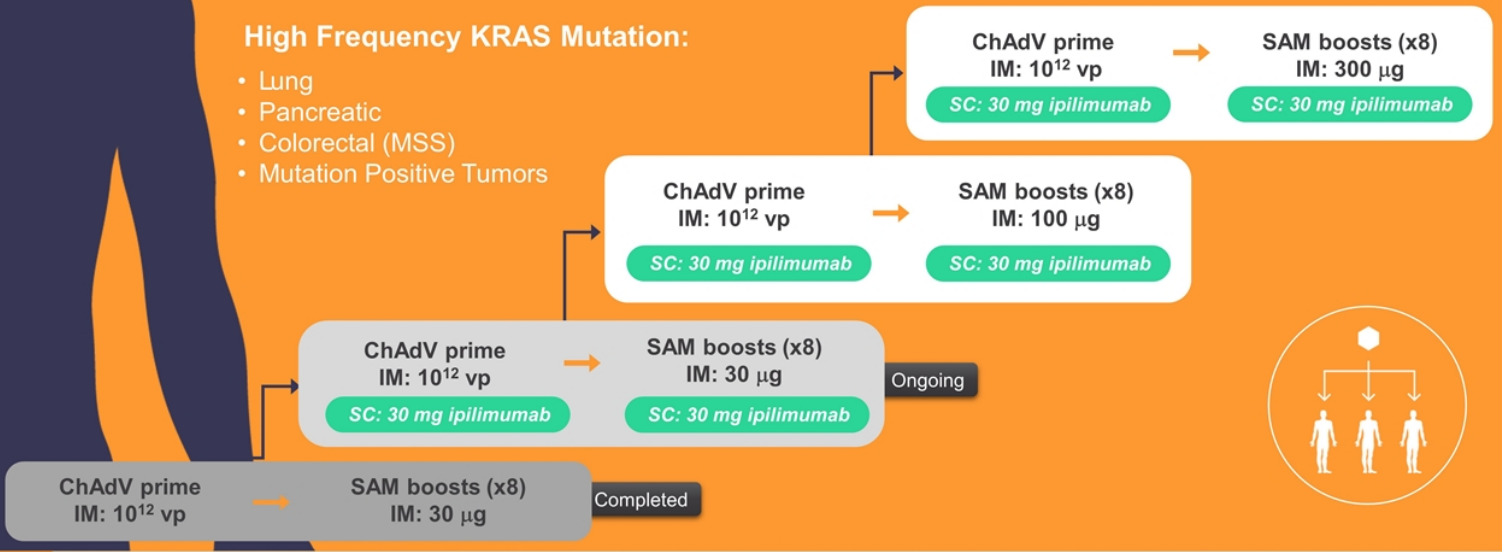
# Dose Escalation Continues in SLATE

All sites actively screening; additional sites pending activation

All patients receive nivolumab (anti-PD-1)

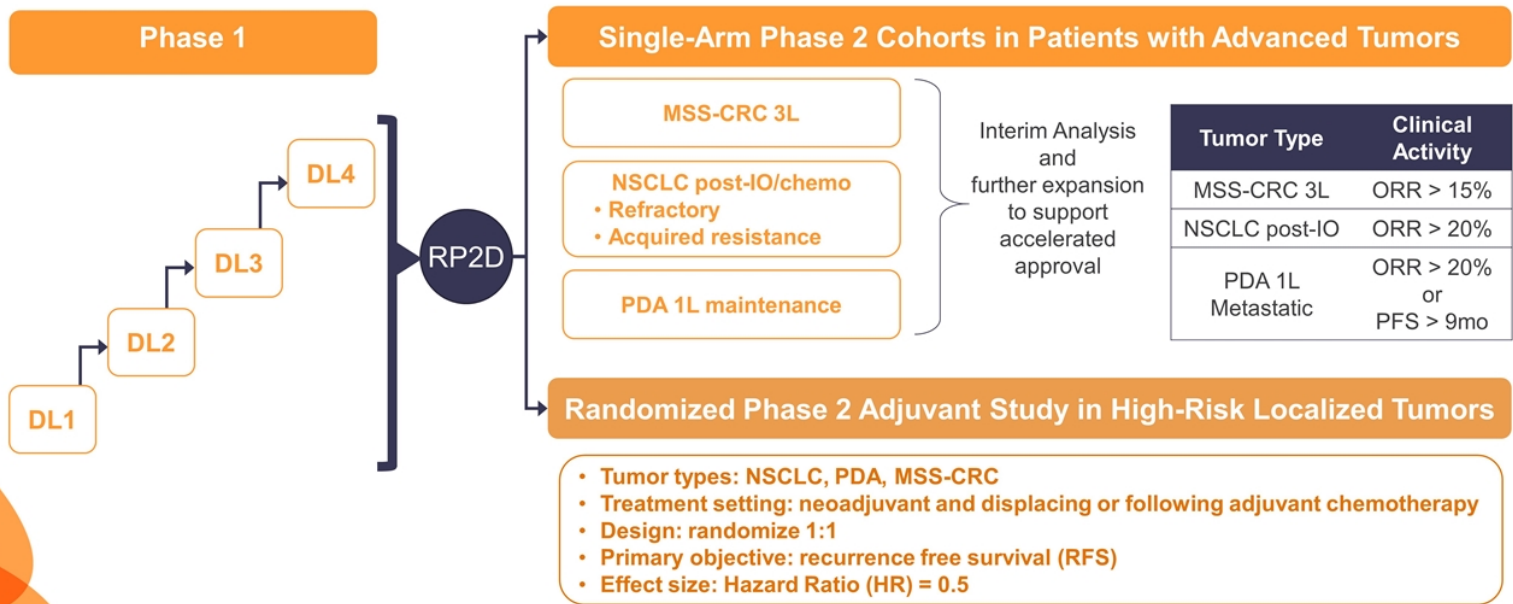
## High Frequency KRAS Mutation:

- Lung
- Pancreatic
- Colorectal (MSS)
- Mutation Positive Tumors

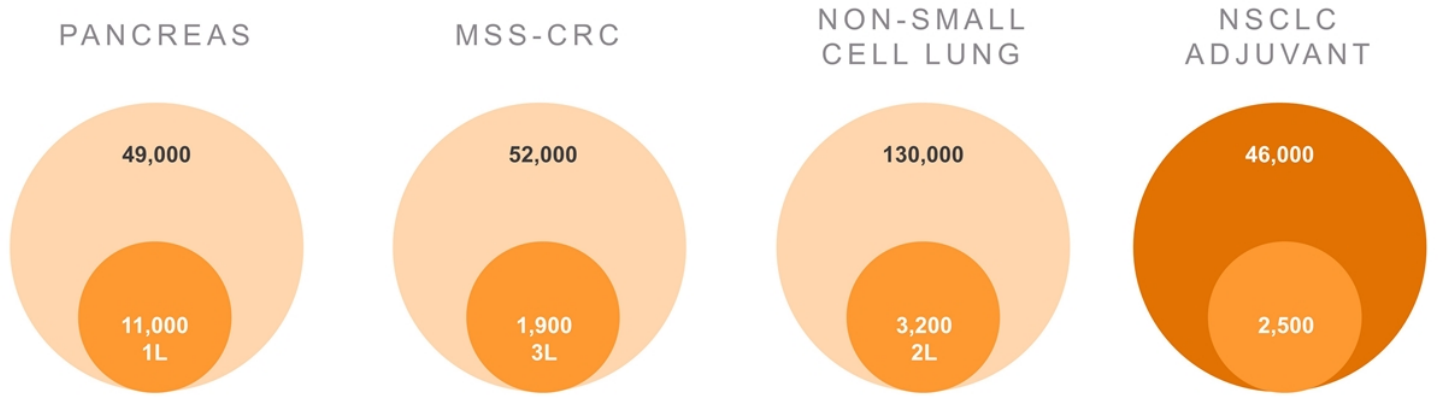


# In Advanced Tumor Types, SLATE Phase 2 is Expected to Begin 2H20

Focus is on adjuvant trial(s) plus tumor types with potential for accelerated approval path



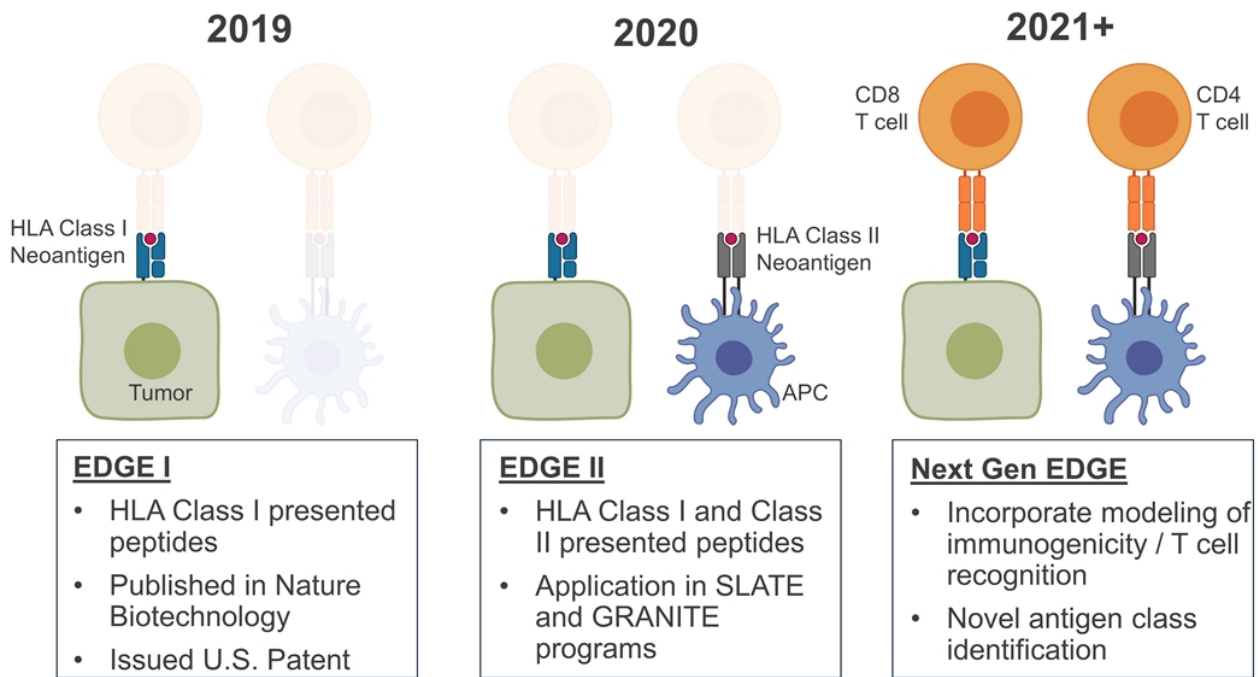
# Compelling U.S. Market Opportunity for SLATE



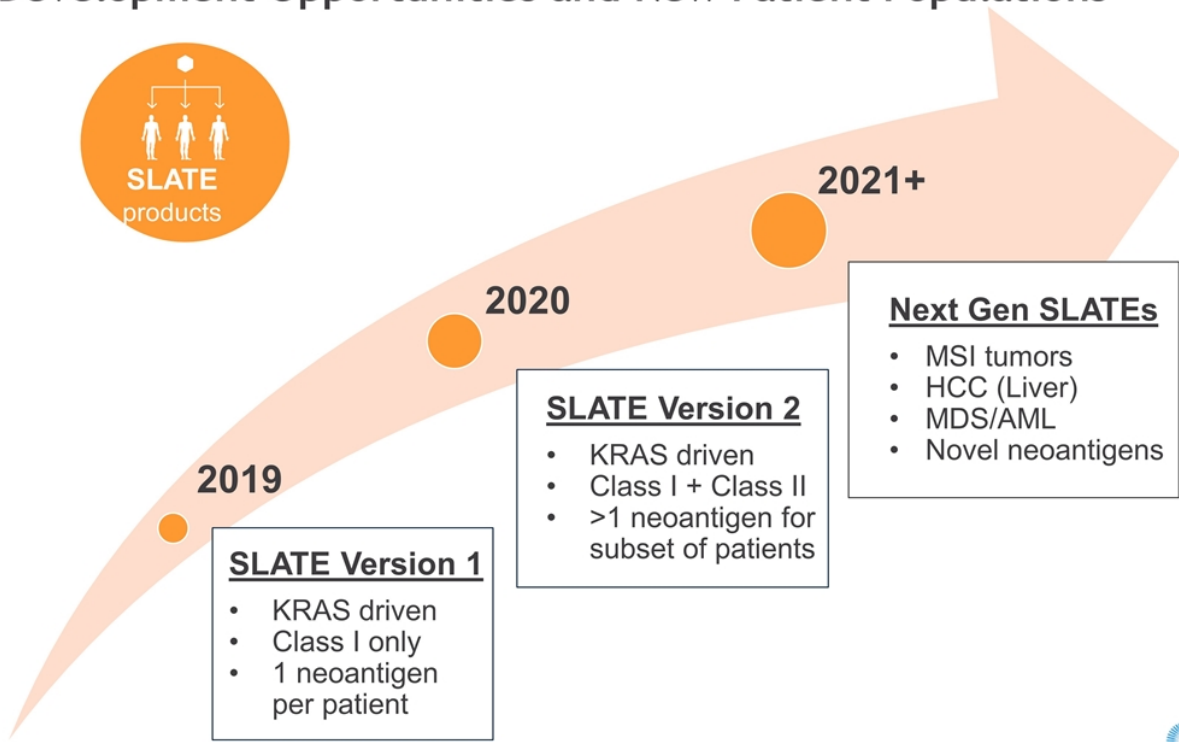
	2028
<ul style="list-style-type: none"> <li><span style="color: #f4a460;">●</span> Annual Mortality</li> <li><span style="color: #e67e22;">●</span> Annual Incidence Regional Disease</li> <li><span style="color: #f1c40f;">●</span> Neoantigen Therapy Eligible / Year</li> </ul>	
<b>Total Potential Patient Population Per Year (All indications)</b>	<b>&gt; 19,000</b>
<b>Total U.S. Market Opportunity Per Year in bn\$ (*)</b>	<b>&gt; \$3.5Bn</b>

\*SEER & NCBI data and internal estimates

# EDGE Development Continues and is Identifying Novel Neoantigens



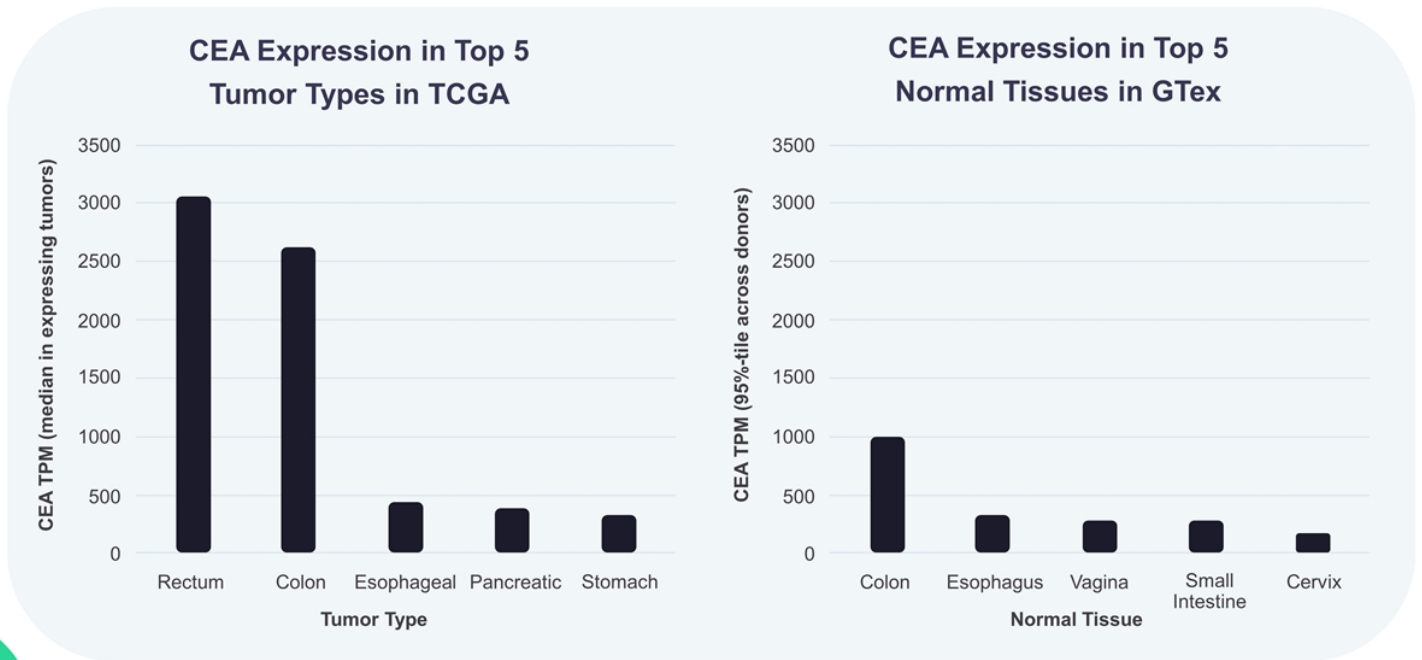
# SLATE Development Opportunities and New Patient Populations





# TUMOR-SPECIFIC BISPECIFIC ANTIBODIES (BiSAb)

# First Generation of Solid Tumor BiSAb Targets May Have a Limited Therapeutic Window Due To High Expression in Normal Tissues





# Bispecific Antibody Therapy for Solid Tumors May be Enhanced with Superior Tumor-Specific Target Selection

## Identify High Quality Tumor-Specific HLA-Peptide Targets

- Validate on primary human tumors
- Determine surface density

## Predict Potential Off-Target Binding of Ab

- Overall target health-check:
- How many similar peptides exist?
  - How similar are they?
  - Where are they expressed?



**Employ target and off-target analyses in optimized discovery**



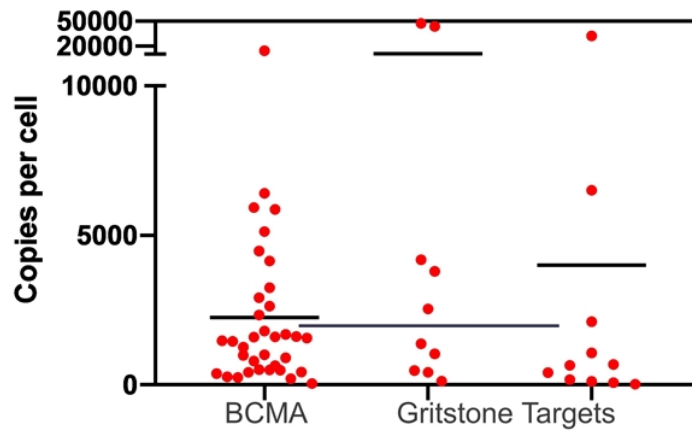
**Prioritize targets with ideal characteristics: uniqueness, validation, density, prevalence**



**Utilize off-target information throughout discovery and optimization to drive high specificity**

# Select HLA-Peptide Complexes are as Densely Expressed on Cancer Cells as Validated B Cell Targets, Offering Novel Solid Tumor Targets

## Target Surface Density on Primary Human Cancer Specimens

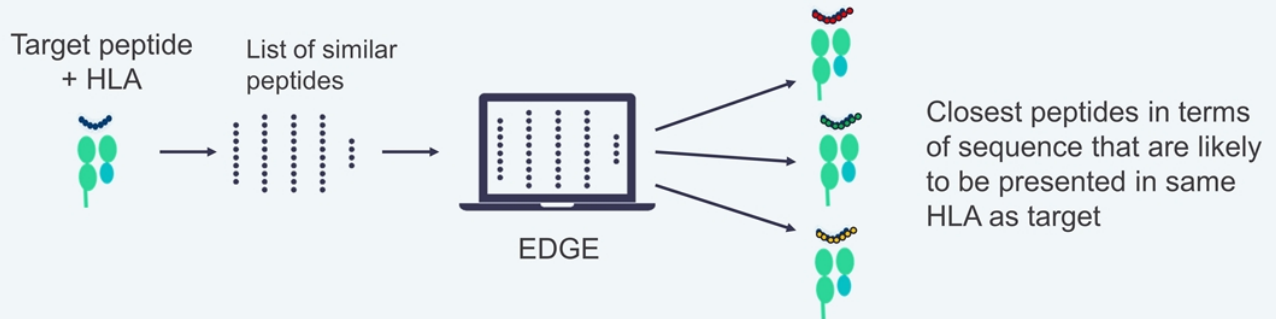


BCMA data from Seckinger et al., 2017, *Cancer Cell* 31, 396–410 (ABC assay)  
Gritstone targets determined by mass spectrometry

# Superior Off-Target Liability Prediction Using EDGE

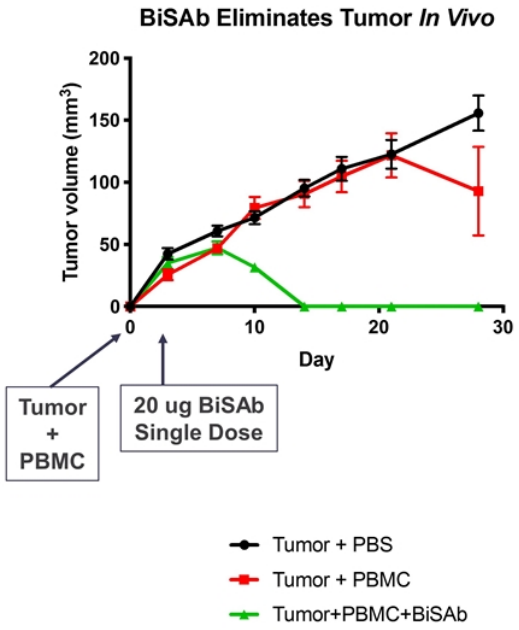
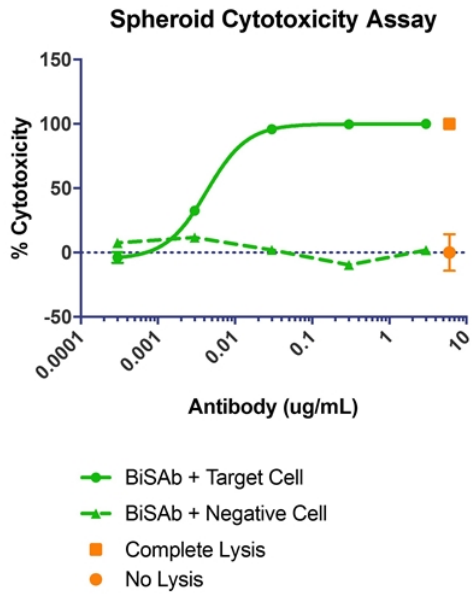
An engineered T cell with a TCR targeting a MAGEA3 peptide resulted in deaths in a clinical study due to cross-reacting with a peptide from an unrelated protein, called titin, expressed in heart muscle

We use EDGE to identify the off-target liabilities that are most likely to be presented:



While developing a bispecific to a MAGEA3/6 peptide, our methods identified titin as a potential liability. We were able to demonstrate lack of binding & cytotoxicity of the titin target by our bispecific.

# Gritstone BiSAb Against HLA-peptide Complexes Can Drive Potent and Efficient Killing *In Vitro* and *In Vivo*



# BUSINESS OPERATIONS

# Strong U.S. and Global Foundational IP Position

## Broad and Deep Intellectual Property Covering:



- Issued U.S. Patent
- Class I and Class II prediction
- Patient Selection



**GRANITE**      **SLATE**

- Vectors including ChAdV and SAM
- Personalized and Shared NeoAg Targets
- Manufacturing
- Exclusive Delivery Technology License



**BISPECIFIC ANTIBODIES**

- Optimized Bispecific Antibody Platforms
- Cancer-Testis Antigen Targets and Binders
- Shared NeoAg Targets and Binders



**CELL THERAPY**

- Cancer-Testis Antigen Targets
- Shared NeoAg Targets
- TCRs Binding Targets

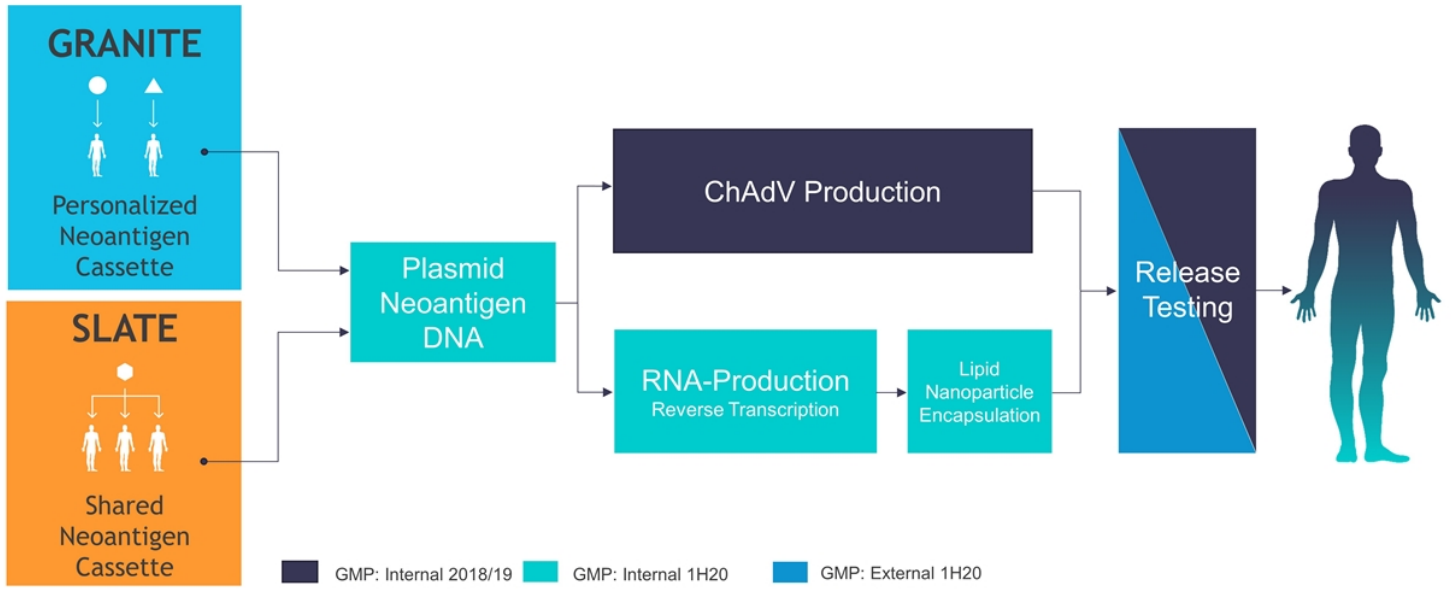
**130+** Applications Pending Worldwide

**1** Issued U.S. Patent

**2036-2040**

Patent Exclusivity

# Manufacturing is Critical - Continued In-Sourcing and Development



## Key Financial Highlights

3 Months Ended September 30, 2019

<b>Cash, Cash Equivalents and Marketable Securities</b>	<b>\$151.5MM</b>
<b>Research and Development Expenses</b>	<b>\$24.9MM</b>
<b>General and Administrative Expenses</b>	<b>\$4.6MM</b>

12 Months Ended December 31, 2018

<b>Cash, Cash Equivalents and Marketable Securities</b>	<b>\$153.1MM</b>
<b>Operating Expenses</b>	<b>\$66.8MM</b>



# Multiple Value-Generating Milestones in Next 12 Months

## Anticipated Milestones

	1H-2020	2H-2020	1H-2021
GRANITE Phase 1 Clinical Data	<input checked="" type="checkbox"/>		
SLATE Phase 1 Clinical Data	<input checked="" type="checkbox"/>		
GRANITE Phase 2 Initiation (advanced disease)		<input type="checkbox"/>	
SLATE Phase 2 Initiation (advanced disease)		<input type="checkbox"/>	
BiSAb Dev. Candidate Nomination (KRAS <sup>mut</sup> / CTA*)		<input type="checkbox"/>	
SLATE Phase 2 Adjuvant Initiation (early disease)			<input type="checkbox"/>
GRANITE Phase 2 Adjuvant Initiation (early disease)			<input type="checkbox"/>

Thank you!

