



gritstone

ONCOLOGY

Gritstone Oncology to Present First Data Bridging Tumor Antigen Identification and Potent Immunotherapy Delivery in Primates at 2018 AACR Annual Meeting

April 12, 2018

EMERYVILLE, Calif., April 12, 2018 – Gritstone Oncology, a personalized cancer immunotherapy company, today announced that preclinical data highlighting the company's tumor-specific neoantigen (TSNA) identification platform, EDGE™ (Epitope Discovery in cancer GENomes), and a novel, potent TSNA delivery approach will be presented during two poster presentations at the 2018 American Association for Cancer Research (AACR) Annual Meeting. The meeting is being held April 14-18, 2018 in Chicago.

Gritstone Oncology will present prediction data from EDGE™ demonstrating its ability to select tumor-specific neoantigens that have generated anti-tumor immune responses in humans. In an analysis of independently validated, tumor-relevant T cell responses against neoantigens (including from the US National Cancer Institute), EDGE™ identified, with good specificity, the majority of neoantigens eliciting a CD8+ T cell response in patients with cancer.

Further, the company will present the first preclinical data, including in non-human primates (NHP), highlighting a potent immunotherapy approach to deliver selected TSNA to patients. The delivery approach comprises a chimpanzee adenoviral vector (ChAdV) for the prime immunization, and a self-replicating, synthetic viral RNA vector (srRNA) for repeated boost immunizations. In preclinical NHP studies, delivery of selected antigens using this sequential (heterologous) prime/boost immunization approach, showed a quick onset of immune activation with induction of high numbers of antigen-specific T cells. In addition, co-administration of anti-CTLA4 further enhanced both the number and function of the elicited T cells, suggesting the system's potential in combination with checkpoint inhibitors.

"In patients with solid tumors, the generation of a very large number of tumor neoantigen-specific CD8+ T cells is one of the major challenges associated with today's immunotherapies," said Andrew Allen, M.D., Ph.D., co-founder, president and chief executive officer of Gritstone Oncology. "To leverage the neoantigens selected by EDGE™, we have developed a potent immunotherapy regimen, which has produced high level CD8+ T cell responses in NHP. Historically, such models have been highly predictive of immune responses observed in humans, and these data support our plans to initiate clinical trials in the second half of 2018. We are excited to be presenting our research at this year's AACR meeting, demonstrating the applicability of our integrated platform for the development of personalized immunotherapies for difficult-to-treat-cancers."

Abstract Title: A novel heterologous prime boost vaccine system drives tumor specific and potent CD8 T cell responses for cancer immunotherapy

Date & Time: April 15, 2018 from 1:00 to 5:00 p.m. CT

Abstract Findings: Gritstone Oncology has developed a potent heterologous prime/boost immunization approach to deliver predicted TSNA to patients, which is comprised of a replication incompetent chimpanzee adenoviral vector (ChAdV) for the prime vaccination and a self-replicating, synthetic viral vector (srRNA) for repeated boost vaccinations. In a preclinical model, immunization with either vector resulted in strong antigen-specific CD8 T-cell responses and provided a statistically significant survival advantage to tumor bearing mice when compared to untreated mice. The potency was also tested in a non-human primate model, demonstrating quick onset of T-cell responses one week post ChAdV prime vaccination, with peak T-cell responses at two to three weeks and effectively boosted by the srRNA vector. In addition, co-administration of anti-CTLA4 with the vaccine demonstrated enhanced vaccine-induced immune response.

Abstract Title: Antigen identification for cancer immunotherapy by deep learning on tumor HLA peptides

Date & Time: April 18, 2018 from 8:00 a.m. to 12 p.m. CT

Abstract Findings: Using a large dataset of tumor transcriptomes and immunopeptidomes, Gritstone Oncology has trained a deep learning model (EDGE™) to predict the presentation of HLA peptides on tumor cells. The model was tested on HLA presented peptides from held-out tumor samples and demonstrated an approximately 10-fold improvement in positive predictive value compared to standard tools. The model was also tested for its ability to predict neoantigens recognized by T-cells and included the majority (16/23, 70%) of validated neoantigens from an independent test set in a putative 20-mutation personalized immunization.

About Gritstone Oncology

Gritstone Oncology is a privately-held, personalized cancer immunotherapy company. Gritstone brings together distinguished scientific founders, an experienced and diverse management team, a seasoned and successful board of directors and deep financial backing to tackle fundamental challenges at the intersection of cancer genomics, immunology, and immunotherapy design. The Company's initial goal is to leverage artificial intelligence to identify and deploy therapeutic neoantigens from individual patients' tumors to develop novel treatments for lung, gastric, colorectal, and bladder cancer. In addition to neoantigen therapy development, Gritstone is leveraging its unique antigen discovery platform, EDGE™ (Epitope Discovery of cancer GENomes), to define targets for shared antigen immunotherapies, which would provide an opportunity to treat even more patients. Gritstone Oncology is headquartered in the San Francisco Bay Area with key functions located in Cambridge, MA and Pleasanton, CA. The company

launched in October 2015 and has received funding from leading blue-chip biotechnology investors, including Versant Ventures, The Column Group, Clarus Funds, Frazier Healthcare Partners, RedMile, Casdin Capital, Lilly Asia Ventures, Trinitas Capital, GV, Alexandria Venture Investments, and Bay City Capital. More information can be found at www.gritstoneoncology.com or [@gritstoneonc](https://twitter.com/gritstoneonc).

Media Contact:
Dan Budwick
1AB Media
dan@1abmedia.com