GenVivo to Present at the 2023 American Society of Gene and Cell Therapy (ASGCT) Annual Meeting

Non-Replicating, Non-Integrating Vectors, Vector Production using Continuous Perfusion Bioprocessing and Optimization of a Suicide Gene

PASADENA, CA, UNITED STATES, May 19, 2023 /EINPresswire.com/ -- GenVivo, Inc., a clinical stage biopharmaceutical company utilizing gene therapy to develop novel vector-based immunotherapies, today announced that three posters are being presented at the ongoing American Society of Gene and Cell Therapy (ASGCT), which is being held in-person from May 16-20, in Los Angeles, CA. The posters will cover the optimization of the suicide gene, Herpes Simplex Virus Thymidine Kinase (HSV-TK), for cancer immunotherapy; the engineering of a non-replicating, non-integrating vector based on a highly modified Moloney Murine Leukemia Viral (MoMLV) vector; and the development of a method for production of an enveloped vector using continuous perfusion bioprocessing.

Presentation details
- Abstract Link: https://annualmeeting.asgct.org/abstracts
- Session Title: Poster Session III in Exhibit Hall/West Hall A
- Session Date and Time: Friday, May 19, 2023 from 12:00 PM to 1:30 PM PST

Poster 1

- Abstract Title: Non-Replicating, Non-Integrating Vector for Immunotherapy and Vaccine Applications
- Presenter: Jackie Fischer-Lougheed, PhD., Principal Scientist at GenVivo, Inc.
- Abstract Number: 1423

Non-replicating, non-integrating vectors represent an attractive alternative for transgene therapy as the duration of payload expression outperforms current approaches, such as with formulated mRNA. This study demonstrates the ability to engineer a non-replicating Moloney Murine Leukemia Viral (MoMLV) vector to become non-integrating. Multiple mutants were constructed at the Mg2+ binding motif of the catalytic core domain of the integrase in the vector gagpol gene. All mutants of defective integrase successfully generated vector particles at high titers similar to the wild-type gagpol sequence and resulted in similar levels of expression of the payload protein HSV-TK in transduced target cells. These constructs provide a new platform with improved safety for testing various future therapeutic and prophylactic applications, ranging from cancer therapy to vaccine delivery.

Poster 2

- Abstract Title: Intensified Enveloped Vector Production Using Continuous Perfusion Bioprocessing
- Presenter: Lynn Svay, Process Development and Engineering, Director at GenVivo, Inc.
- Abstract Number: 1575

This study addresses the need to overcome vector production limitations using established technologies by applying tangential flow depth filtration (TFDF) technology in a perfusion process. The process provides high efficiency cell retention, producing a high-quality vector while minimizing filter fouling risks. Various permeate flow rates were tested in Mobius and Distek bioreactors while reaching a maximum viable cell density of 60 x 10^6 vc/mL. The infectious titer in the permeate was significantly higher than that in the retentate suggesting the vectors could maintain their infectivity after filtration from the bioreactor. Remarkably, no fouling of the TFDF filters was observed during five runs that lasted up to 10 days. This study demonstrates the expected feasibility of utilizing a TFDF system for enveloped vector production.

Poster 3

- Abstract Title: Optimization of a Suicide Gene Vector for the GEN2 Cancer Immunotherapy Clinical Trial
- Presenter: Cecilia Roh, PhD., Gene Therapy Research and Development, Director at GenVivo, Inc.
- Abstract Number: 1634

This study demonstrates the successful optimization of a suicide gene, Herpes Simplex Virus Thymidine Kinase (HSV-TK), to create a more potent cancer cell killing therapeutic. HSV-TK gene was modified and demonstrated localization of the protein to the cytoplasm and increased level of cell killing activity & bystander effect activity. Tumor bearing animal experiments were undertaken to investigate the effect of the suicide plus Granulocyte Macrophage Colony Stimulating Factor (GM-CSF) genes on tumor eradication and against tumor re-challenge. The in vivo and in vitro data indicate that an optimized suicide gene along with a gene encoding GM-CSF can stimulate immune responses directed against the tumor, leading to tumor eradication

and a durable immunological response against the tumor.

About GenVivo
GenVivo is a clinical stage biopharmaceutical company utilizing gene therapy to develop novel vector-based in-vivo immunotherapies focused on helping patients fight cancer. Our lead candidate, GEN2, is currently in a Phase 1 clinical trial (NCT04313868).

For more information about GenVivo, visit https://genvivoinc.com/

Forward-Looking Statements
This press release includes certain disclosures that contain “forward-looking statements,” within the meaning of the Private Securities Litigation Reform Act of 1995, as amended, including, without limitation, express or implied statements regarding the expectations regarding the therapeutic benefit of its programs. The words such as “anticipate,” “believe,” “expect,” “indicate,” “intend,” “plan,” “potential,” “project,” “would,” “future” and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. Any forward-looking statements in this press release are based on management’s current expectations and beliefs and are subject to a number of risks, uncertainties and important factors that may cause actual events or results to differ materially from those expressed or implied by any forward-looking statements contained in this press release, including, without limitation, those risks and uncertainties related to the timing and advancement of development programs; expectations regarding the therapeutic benefit of the Company’s programs; the Company’s ability to efficiently discover and develop product candidates; the Company’s ability to obtain and maintain regulatory approval of product candidates; the Company’s ability to maintain its intellectual property; the implementation of the Company’s business model, and strategic plans for the Company’s business and product candidates, The Company cautions you not to place undue reliance on any forward-looking statements, which speak only as of the date they are made. The Company disclaims any obligation to publicly update or revise any such statements to reflect any change in expectations or in events, conditions or circumstances on which any such statements may be based, or that may affect the likelihood that actual results will differ from those set forth in the forward-looking statements, except to the extent required by law. Any forward-looking statements contained in this press release represent the Company’s views only as of the date hereof and should not be relied upon as representing its views as of any subsequent date.

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