# AlloVir Reports Blinded, Preliminary, Phase 2 Data Supporting the Ongoing Study of Posoleucel, a Multi-Virus-Specific T Cell Therapy, for the Treatment of BK Viremia in Kidney Transplant Recipients

June 7, 2022

*Phase 2 study completed enrollment ahead of schedule*

*Posoleucel well-tolerated with no cases of graft rejection observed to date*

*Overall decline in median BK viral load among patients completing 12 weeks of dosing with posoleucel or placebo (2:1 randomization)*

*Posoleucel detected up to 12 weeks after last infusion*

*Topline, unblinded study results from all 61 patients expected to be released in 1Q 2023*

WALTHAM, Mass.--(BUSINESS WIRE)--Jun. 7, 2022-- AlloVir, Inc. (Nasdaq: ALVR), a late-clinical stage allogeneic T-cell immunotherapy company, today announced preliminary, blinded data from an ongoing Phase 2 study of posoleucel, an investigational, allogeneic, off-the-shelf, multi-virus-specific T cell (VST) therapy, for the treatment of BK viremia (BKV) in adult kidney transplant recipients. These data from the largest study of T cell therapy in solid organ transplant patients presented to date, provide an early indication of the safety and tolerability profile of posoleucel in kidney transplant recipients with BK viremia, which is associated with reduced graft survival and has no approved treatment. These data were shared today in an oral plenary presentation at the American Transplant Congress (ATC) in Boston (Abstract 387).

“Kidney transplant recipients are particularly challenged by BK viremia, which puts the survival of their transplanted graft at risk,” said Anil K. Chandraker, MD, Director of Renal Transplant Medicine, Brigham and Women’s Hospital. “We currently manage high-level BK viremia by reducing immunosuppressive therapy, which can help a patient’s immune system clear the virus, but this approach raises the risk that the immune system will attack and reject the graft. The potential for posoleucel to specifically restore immunity to BKV as an alternative to reducing immunosuppressive therapy would be a significant advance. The preliminary safety and tolerability data from this study are highly encouraging and support the continued evaluation of posoleucel to address this important unmet need.”

“Posoleucel has tremendous potential to advance the care of a range of immunocompromised patients. We aim to move beyond hematopoietic cell transplant patients to also address solid organ transplant patients, who are at high risk of viral infections due to long-term immunosuppression,” said Richard Riese, MD, PhD, Senior Vice President, Clinical Research, AlloVir. “The ongoing study of posoleucel in kidney transplant patients has demonstrated a favorable, preliminary safety and tolerability profile and encouraging cell persistence to date. These data add to the growing body of evidence on the safety profile of posoleucel and further support the expansion of our clinical development programs to solid organ transplant patients.”

In addition to the oral presentation on the study of posoleucel for the treatment of BK viremia, a compassionate use report on the administration of posoleucel in a kidney transplant recipient with Epstein-Barr virus-associated leiomyosarcoma was featured in a poster at ATC (Abstract 1000). Compassionate use case reports of ALVR109 administered to four immunocompromised patients with protracted COVID-19 infection, including two lung transplant recipients, were featured in a late-breaking presentation at ATC (Abstract 9011).

**Preliminary Study Findings**

This ongoing, randomized, double-blind, placebo-controlled Phase 2 study is evaluating the safety and tolerability of posoleucel for the treatment of BK viremia in 61 adult kidney transplant recipients with BK viremia between 350-10,000,000 copies/mL. Enrollment in the study has completed. Patients were randomized 1:1:1 to receive one of two dosing regimens of posoleucel (weekly administration of posoleucel for three weeks then every two weeks, or weekly for three weeks then once a month) or placebo over a period of 12 weeks. Following this dosing period, patients are followed up through Week 24.

At the time of the data cut-off for this preliminary blinded analysis, 61 patients had received at least one dose of posoleucel or placebo at a median of 458 days post-transplant, including 28 patients who had completed dosing, four patients who discontinued dosing due to resolution of BK viremia per protocol, and 12 patients who completed 26 weeks of the study. Of the 61 patients randomized, 56% (n=34) had a screening BK viral load under 10,000 copies/mL and 44% (n=27) had a screening BK viral load over 10,000 copies/mL.

The primary study endpoint is safety and tolerability of posoleucel versus placebo. In this preliminary blinded analysis, headache, which was reported in six patients (10%), was the only adverse event judged by investigators to be related to study drug that occurred in more than 5% of patients. No grade 3-4 adverse events, treatment-related serious adverse events, treatment discontinuations due to adverse events, or deaths were reported. There were no cases of graft rejection and no episodes of graft versus host disease or cytokine release syndrome. One patient developed *de novo* donor-specific antibodies; these antibodies were not found to be directed against posoleucel antigens in the matching cell line. Overall kidney allograft function, as assessed by creatinine and estimated glomerular filtration rate, remained stable. Reduction in immunosuppression occurred in six patients (10%) at the discretion of study investigators who agreed to follow protocol-defined guidelines.

The key secondary endpoint of the study is change in BK viremia in patients receiving posoleucel versus those receiving placebo. Declines in median BK viral load were observed in this blinded dataset irrespective of the baseline BK viral load. At baseline, 34 patients had a viral load below 10,000 copies/mL. The median viral load in these 34 patients was 2,042 copies/mL on Day 1. Among the 14 patients who had reached the Week 12 timepoint at the time of this analysis, the median viral load had declined to 245 copies/mL. At baseline, 27 patients had a viral load above 10,000 copies/mL and

the median viral load was 190,546 copies/mL at Day 1. Among the 14 patients who had reached the Week 12 timepoint at the time of this analysis, the median viral load had declined to 27,542 copies/mL.

Exploratory study endpoints include posoleucel persistence by T cell receptor (TCR)-beta sequencing and the assessment of T cell expansion by ELISpot. Posoleucel VSTs were detected in the seven patients with available TCR sequencing data during the infusion period and for up to 12 weeks after the last infusion. Expansion of functional BK-specific VSTs were confirmed in six of these seven patients.

Topline, unblinded study results from all 61 patients are expected to be released in the first quarter of 2023, after completion of the study at the end of this year.

**About BK Virus**

Due to the long-term immunosuppression required to prevent graft rejection, solid organ transplant recipients are at high risk for reactivating common viruses that are typically controlled by the body's natural immune system. Uncontrolled, these viruses can have devastating consequences.

BK viremia is detected in up to 20% of kidney transplant recipients, with the majority of BK viremia occurring within the first one to two years post-transplant. Approximately half of patients with high-level BK viremia develop BKV nephropathy (BKVN), which can lead to decreased kidney survival and a return to end-stage renal disease and dialysis. There are no approved or effective antiviral treatments for BK viremia. Reduction in immunosuppression to allow the body's immune system to fight the virus can also lead to graft rejection and the development of donor-specific antibodies.

Data suggest that VST therapy may play a role in managing BK viremia and BKVN. Kidney transplant recipients who do not develop BKVN have been shown to have approximately 10-fold higher BKV-specific T-cell responses versus those with BKVN. Kidney transplant recipients with BK viremia who develop robust BKV-specific T-cell responses have also been shown to clear the virus, while those who progressed to BKVN required interventions such as reduction in immunosuppression.

**About Posoleucel**

AlloVir's lead product, posoleucel (Viralym-M, ALVR105), is in late-stage clinical development as an allogeneic, off-the-shelf, multi-virus-specific T cell therapy targeting six viral pathogens in immunocompromised individuals: adenovirus (AdV), BK virus (BKV), cytomegalovirus (CMV), Epstein-Barr virus (EBV), human herpesvirus-6 (HHV-6) and JC virus (JCV). In the positive, Phase 2, proof-of-concept CHARMS treatment study in allo-HCT patients, more than 90% of patients who did not respond to or could not tolerate conventional treatment had a complete or partial clinical response after receiving posoleucel. Of the 20 patients with BKV-associated hemorrhagic cystitis (HC) who were treated with posoleucel in the CHARMS study, 75% had resolution of HC by Week 6. In the ongoing Phase 2 study evaluating posoleucel for the prevention of clinically significant infections and disease caused by AdV, BKV, CMV, EBV, HHV-6 and JCV in allo-HCT patients, no patients developed BKV-associated HC. A Phase 3 trial of posoleucel for multi-virus prevention is ongoing.

Based on the strength of the posoleucel Phase 2 data for both treatment and prevention, the FDA has granted posoleucel Regenerative Medicine Advanced Therapy (RMAT) designation for each of the three indications being evaluated in Phase 3 clinical trials – for the treatment of HC caused by BKV, for the treatment of AdV infection in adults and children following allo-HCT, and for the prevention of clinically significant infections and disease caused by posoleucel's six target viruses. The FDA also granted posoleucel Orphan Drug Designation for the treatment of virus-associated HC. The European Medicines Agency has granted posoleucel PRIority Medicines (PRIME) designation for the treatment of serious infections with AdV, BKV, CMV, EBV and HHV-6, and Orphan Medicinal Product designation as a potential treatment of viral diseases and infections in patients undergoing HCT.

**About AlloVir**

AlloVir is a leading late clinical-stage cell therapy company with a focus on restoring natural immunity against life-threatening viral diseases in pediatric and adult patients with weakened immune systems. The company's innovative and proprietary technology platforms leverage off-the-shelf, allogeneic, single- and multi-virus-specific T cells for patients with T cell deficiencies who are at risk from the life-threatening consequences of viral diseases. AlloVir's technology and manufacturing process enable the potential for the treatment and prevention of a spectrum of devastating viruses with each single allogeneic cell therapy. The company is advancing multiple mid- and late-stage clinical trials across its product portfolio. For more information, visit www.allovir.com or follow us on Twitter or LinkedIn.

**Forward-Looking Statements**

This press release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, as amended, including, without limitation, statements regarding AlloVir's development and regulatory status of our product candidates, including the safety and efficacy of posoleucel as a potential treatment for kidney transplant patients with BKV, the planned conduct of its preclinical studies, and clinical trials and its prospects for success in those studies and trials, and its strategy, business plans and focus. The words "may," "will," "could," "would," "should," "expect," "plan," "anticipate," "intend," "believe," "estimate," "predict," "project," "potential," "continue," "target" 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 related to AlloVir's financial results, the timing for the initiation and successful completion of AlloVir's clinical trials of its product candidates, whether and when, if at all, AlloVir's product candidates will receive approval from the U.S. Food and Drug Administration, or FDA, or other foreign regulatory authorities, competition from other biopharmaceutical companies, the impact of the COVID-19 pandemic on AlloVir's product development plans, supply chain, and business operations and other risks identified in AlloVir's SEC filings, including but not limited to the risks discussed in AlloVir's Annual Report on Form 10-K for the year ended December 31, 2021 and in our other filings with the SEC. AlloVir cautions you not to place undue reliance on any forward-looking statements, which speak only as of the date they are made. AlloVir 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. Any forward-looking statements contained in this press release represent AlloVir'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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