ImmunityBio Announces Primary Endpoint Met in a Second Indication in Bladder Cancer Trial with 57% Disease-Free Survival in Patients with BCG Unresponsive Papillary Disease

October 19, 2021

- Primary endpoints were met for both Cohorts A and B of Carcinoma in Situ (CIS) and Papillary disease in the 154-patient Phase 2/3 trial studying Anktiva (N-803) and BCG in BCG-unresponsive non-muscle invasive bladder cancer (NMIBC)
- In papillary disease, 57% of patients remain disease free at 12-months and with CIS disease complete response rate is 72%
- There were zero immune- or treatment-related severe adverse events noted in the combined safety analysis of 154 patients in the trial
- Key patent allowed covering Anktiva intravesical use in bladder cancer with the term extending to 2035

CULVER CITY, Calif.--(BUSINESS WIRE)--Oct. 19, 2021-- ImmunityBio, Inc. (NASDAQ: IBRX), a clinical-stage immunotherapy company, today announced that Papillary disease (Cohort B), the second indication of its QUILT 3.032 Phase 2/3 study of intravesical BCG plus Anktiva in patients with BCG-unresponsive high-grade NMIBC (NCT03022825), also met its primary endpoints with disease-free survival of 57% of patients at 12 months. The company has previously reported that the primary endpoint of Cohort A, patients with CIS disease, has been met with a complete response of 72% (58/81).

Non-muscle invasive bladder cancer (NMIBC) makes up 75%-85% of all bladder cancers in the U.S.; approximately 90% of NMIBC cases are papillary (stages Ta and T1). Current standard of care for high-grade papillary disease is intravesical BCG, with a 40% non-response rate.

To date, 73 patients have enrolled in Cohort B with a median follow-up of 17.3 months. The primary endpoint was met with a disease-free rate at 12-months of 57% (95% CI: 43.7%, 68.5%) and at 18-months, 53% (95% CI: 38.8%, 64.6%) by Kaplan-Meier analysis. Durable responses were noted in both cohorts and the therapy resulted in significant avoidance of cystectomy.

The safety profile of Anktiva (N-803) in Cohort B was consistent with that seen in Cohort A, which was recently presented at the American Urological Association's 2021 Annual meeting , in which 0% SAEs, including 0% immune-related SAEs, were detected. In addition, 85% of the patients were able to avoid a cystectomy. A full analysis of efficacy and safety data for both Cohorts A (CIS) and B (Papillary) has been submitted to the American Society of Clinical Oncology Genitourinary Cancer Symposium (ASCO GU), which is taking place in February 2022.

"Intravesical BCG has been the standard of care for more than 30 years for patients with non-invasive papillary tumors, yet, unfortunately some 40% of them don't respond," said Patrick Soon-Shiong, M.D., Founder and Executive Chairman and Global Chief Scientific and Medical Officer of ImmunityBio. "Anktiva has demonstrated strong disease control in CIS, and based on the latest data from our study, it is showing the same effect in papillary tumors. This gives us confidence in the potential for all BCG-unresponsive NMIBC patients to benefit from this combination therapeutic."

The U.S. Patent & Trademark Office has recently allowed ImmunityBio's patent application for a method of treating cancer, including non-muscle invasive bladder cancer, using Anktiva (N-803) in combination with Bacillus Calmette-Guerin (BCG). The new patent will extend patent life on the N-803/BCG combination therapy for bladder cancer to at least 2035.

The Urgent, Unmet Need to Treat NMIBC and Avoid Cystectomy

Bladder cancer has a high incidence worldwide; in 2020, an estimated 573,278 new cases were diagnosed and it was the cause of 212,536 deaths[1]. In the United States, bladder cancer is the fourth most commonly diagnosed solid malignancy in men and the twelfth for women and the American Cancer Society estimates there will be 83,730 new cases and 17,200 deaths from bladder cancer in 2021[2]. Approximately 75–85% of patients with bladder cancer present with a disease that is confined to the mucosa [stage Ta, carcinoma in situ (CIS)] or submucosa (stage T1). These categories are grouped as non-muscle invasive bladder cancer (NMIBC). Of these, approximately 70% present as stage Ta, 20% as T1 and 10% as CIS[3].

For the last 30 years, BCG immunotherapy has been the standard for treating NMIBC. However, disease recurrence and progression rates remain unacceptably high. Standard-of-care recommendations for these patients include lifetime invasive surveillance and rapid treatment of recurrences, creating a substantial financial burden and drastic impact on quality of life. Of those patients who experience recurrence, approximately 30% will progress and succumb to their disease over a 15-year period, and another 50% will undergo radical cystectomy of the bladder— a surgery to remove the entire bladder that may require removal of other surrounding organs—in an attempt to control their disease[4].

Despite the advent of minimally invasive procedures and robotic techniques, the 90-day mortality and morbidity rates in patients who undergo cystectomy remain unacceptably high at 3-6% and 28-64%, respectively[5 & 6]. Based on this urgent need, FDA published guidance in February 2018 to address BCG unresponsive non-muscle invasive bladder cancer (NMIBC), stating that the goal of therapy in patients with BCG-unresponsive NMIBC is to avoid cystectomy.

About the Study and Breakthrough Designation

QUILT 3.032 is an open-label, three cohort, multicenter Phase 2/3 study of intravesical BCG plus Anktiva (N-803) in patients with BCG-unresponsive high-grade NMIBC (NCT03022825) and was opened in 2017. The primary endpoint for Cohorts A (CIS with N-803+ BCG) and C (CIS with N-803 alone) of this Phase 2 study is incidence of complete response (CR) of CIS at any time and the primary endpoint for Cohort B (papillary) is 12-month disease-free rate. The FDA granted Fast Track Designation to the pivotal trial based on Phase I data. In December 2019, the FDA granted ImmunityBio Breakthrough Therapy Designation based on interim Phase 2 data indicating the primary endpoint of the trial was already met.

ImmunityBio's IL-15 superagonist Anktiva (N-803)

The cytokine interleukin-15 (IL-15) plays a crucial role in the immune system by affecting the development, maintenance, and function of the natural killer (NK) and T cells. N-803 is a novel IL-15 superagonist complex consisting of an IL-15 mutant (IL-15N72D) bound to an IL-15 receptor α/IgG1 Fc fusion protein. Its mechanism of action is direct specific stimulation of CD8+ T cells and NK cells through beta gamma T-cell receptor binding (not alpha) while avoiding T-reg stimulation. N-803 has improved pharmacokinetic properties, longer persistence in lymphoid tissues and enhanced anti-tumor activity compared to native, non-complexed IL-15 in vivo.

About ImmunityBio

ImmunityBio is a leading late-clinical-stage immunotherapy company developing next-generation therapies that drive immunogenic mechanisms for defeating cancers and infectious diseases. The company's immunotherapy platform activates both the innate (natural killer cell and macrophage) and adaptive (T cell) immune systems to create long-term "immunological memory."

ImmunityBio has a comprehensive immunotherapy pipeline with more than 40 clinical trials (company sponsored or investigator initiated)—of which 25 are at Phase II and III stages of development—across 19 indications in solid and liquid cancers and infectious diseases. Currently 17 first-in-human immunotherapy agents are in clinical testing and, to date, over 1,800 patients have been studied with our antibody cytokine fusion proteins, albumin chemo immunomodulators, Adeno and yeast vaccines and our off-the-shelf natural killer cell products. Anktiva™ (ImmunityBio's lead cytokine infusion protein) is a novel interleukin-15 (IL-15) superagonist complex and has received Breakthrough Therapy and Fast Track Designations from the U.S. Food and Drug Administration (FDA) for BCG-unresponsive CIS non-muscle invasive bladder cancer (NMIBC).

The company's platforms are based on the foundation of four separate modalities: Antibody cytokine fusion proteins, synthetic immunomodulators, second-generation human adenovirus (hAd5) and yeast vaccine technologies, and state-of-the-art, off-the-shelf natural killer cells, including autologous and allogenic cytokine-enhanced memory NK cells. ImmunityBio is currently developing a dual construct COVID-19 vaccine candidate using its hAd5 platform. The company has established GMP manufacturing capacity at scale with cutting-edge cell manufacturing expertise and ready-to-scale facilities, as well as extensive and seasoned R&D, clinical trial, and regulatory operations and development teams. For more information, please visit: www.immunitybio.com

Forward Looking Statements

This press release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, such as statements regarding the development of therapeutics for cancer and infectious diseases, the timing of availability and release of data, patent protection covering the Company's product candidates and the duration thereof, and regulatory approval, commercialization and commercial success of ImmunityBio's product candidates and related matters. Statements in this press release that are not statements of historical fact are considered forward-looking statements, which are usually identified by the use of words such as "anticipates," "believes," "continues", "could", "estimates," "expects," "intends," "may," "plans," "potential", "predicts", "projects," "seeks," "should," "will," and variations of such words or similar expressions. Statements of past performance, efforts, or results of our clinical trials, about which inferences or assumptions may be made, can also be forward-looking statements and are not indicative of future performance or results. Forward-looking statements are neither forecasts, promises nor guarantees, and are based on the current beliefs of ImmunityBio's management as well as assumptions made by and information currently available to ImmunityBio. Such statements reflect the current views of ImmunityBio with respect to future events and are subject to known and unknown risks, including business, regulatory, economic and competitive risks, uncertainties, contingencies and assumptions about ImmunityBio, including, without limitation, (i) the ability of ImmunityBio to continue its planned preclinical and clinical development of its development programs, and the timing and success of any such continued preclinical and clinical development and planned regulatory submissions, (ii) inability to retain and hire key personnel, (iii) uncertainty of the expected financial performance and successful integration of the combined company following completion of the recent merger of ImmunityBio with NantCell (the "Merger"), including the possibility that the expected synergies and value creation from the Merger will not be realized or will not be realized within the expected time period, (iv) whether interim, initial, "top-line" and preliminary data from ImmunityBio's clinical trials that it announces or publishes from time to time may change as more patient data become available and are subject to audit and verification procedures that could result in material changes in the final data, (v) the ability of clinical trial sites to initiate and complete ImmunityBio's clinical trials on time, or at all, and the cost associated with such clinical trials, (vi) ImmunityBio's ability to obtain additional financing to fund its operations and complete the development and commercialization of its various product candidates, (vii) ImmunityBio's ability to obtain, maintain, protect and enforce patent protection and other proprietary rights for its product candidates and technologies, (viii) ImmunityBio's ability to successfully commercialize its product candidates and (ix) the unknown future impact of the COVID-19 pandemic delay on certain clinical trials or their milestones and/or ImmunityBio's operations or operating expenses. More details about these and other risks that may impact ImmunityBio's business are described under the heading "Risk Factors" in the Company's Form 8-K filed with the U.S. Securities and Exchange Commission ("SEC") on March 10, 2021, Form 10-Q filed with the SEC on August 12, 2021 and in subsequent filings made by ImmunityBio with the SEC, which are available on the SEC's website at www.sec.gov. ImmunityBio cautions you not to place undue reliance on any forward-looking statements, which speak only as of the date hereof. ImmunityBio does not undertake any duty to update any forward-looking statement or other information in this press release, except to the extent required by law.

1. Global cancer statistics: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries: https://gco.iarc.fr/
2. https://www.cancer.org/cancer/bladder-cancer/about/key-statistics.html
3. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3263923/
4. https://doi.org/10.1016/j.eururo.2018.09.028
5. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1945091/
6. https://www.sciencedirect.com/science/article/abs/pii/S0302283808008397

View source version on businesswire.com: https://www.businesswire.com/news/home/20211019005500/en/

Investors
Sarah Singleton
ImmunityBio, Inc.
844-696-5235, Option 5

Media
Katie Dodge
Salutem
978-360-3151
Katie.Dodge@salutemcomms.com

Source: ImmunityBio, Inc.