ImmunityBio Receives FDA Expanded Access Authorization for Landmark Treatment of Lymphopenia With ANKTIVA®, the Cancer BioShield™ Platform, in Patients With Solid Tumors

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- Authorized expanded access for ANKTIVA to treat lymphopenia, a life-threatening immune deficiency induced by chemotherapy, radiotherapy, and immunotherapy with depletion of natural killer (NK) and CD4+ CD8+ T cells (lymphocytes)
- Expanded Access includes all patients with solid tumors who have failed first-line treatment on chemotherapy, radiotherapy or immunotherapy and exhibit low Absolute Lymphocyte Counts (ALC <1,000/µL)
- Presentation at ASCO Annual Meeting 2025 of lymphopenia treatment in patients with 3rd to 6th line metastatic pancreatic cancer significantly prolongs overall survival

CULVER CITY, Calif.--(BUSINESS WIRE)--Jun. 2, 2025-- ImmunityBio, Inc. (NASDAQ: IBRX), a leading immunotherapy company, today announced that the U.S. Food and Drug Administration (FDA) has granted Expanded Access authorization for the use of its Cancer BioShield™ platform, anchored by ANKTIVA® (nogapendekin alfa inbakicept-pmln), to treat lymphopenia in adult patients with refractory or relapsed solid tumors independent of tumor type who have progressed after first-line standard-of-care treatment, chemotherapy, radiation, or immunotherapy.

To date no treatment exists for lymphopenia, a depletion of critical lymphocytes responsible for immunogenic cell death, specifically natural killer (NK) cells, killer CD8+ T cells and CD4+ with memory T cells. Treatment induced lymphopenia is a debilitating consequence of chemotherapy, radiation, and certain immunotherapies and steroids. This treatment-acquired immunodeficiency not only increases susceptibility to infections but also deprives the body's immune system to fight residual or recurrent cancer, accelerating metastasis and disease progression, and contributing to early mortality. Countless publications over the last two decades has reported lymphopenia as a highly predictive biomarker of poor prognosis across all tumor types.[1-6] Despite its significant clinical impact, the pharmaceutical industry has largely overlooked lymphopenia as a disease in its own right, and no approved therapies have existed to directly address it, until the approval of ANKTIVA in the treatment of BCG-unresponsive bladder cancer with the mechanism of action of an IL-15 superagonist proliferating key lymphocytes.[7]

While oncologists and patients have long had therapies such as EPOGEN® and NEUPOGEN® to manage chemotherapy- and radiation-induced anemia and neutropenia, no comparable option has been available for lymphopenia. ANKTIVA, an interleukin-15 (IL-15) agonist, is the first approved therapy with a defined mechanism of action to restore lymphocyte levels. It activates and proliferates NK and T cells without inducing immunosuppressive regulatory T cells (Tregs), offering the first solution for reversing this critical immune deficit of lymphocytes in cancer patients.[7]

"Lymphopenia has long been recognized as a major driver and predictor of early mortality in cancer—yet until now, it has remained unaddressed," said Dr. Patrick Soon-Shiong, Founder, Executive Chairman and Global Chief Scientific and Medical Officer of ImmunityBio. "This FDA authorization allows all patients with solid tumors suffering from immune collapse following first-line therapy of chemo, radiation, or immunotherapy to access ANKTIVA. The survival benefit we observed at ASCO 2025 in 3rd to 6th line advanced metastatic pancreatic cancer confirms that restoring lymphocyte levels —rather than depleting them—can change the course of disease."

At the 2025 ASCO Annual Meeting, ImmunityBio presented landmark results showing that reversing lymphopenia with ANKTIVA and CAR-NK therapy significantly prolonged median overall survival in third- to sixth-line metastatic pancreatic cancer patients. This benefit was further enhanced when treatment began at lower tumor burdens, as indicated by CA19-9 levels. Highlighting the importance of lymphopenia reversal, *Oncologist* published a peer-reviewed paper titled "Recurrent pancreatic cancer treated with N-803 and PD-L1 t-haNK followed by an EGFR-targeted nanocell drug conjugate," demonstrating that the patient with 2nd line metastatic pancreatic cancer treated with the full Cancer BioShield platform—including ANKTIVA, CAR-NK cells (PD-L1 t-haNK), and antigen-targeting adenoviruses—has remained in remission for over six years and maintains a high quality of life at the date of this release.

"We are entering a new era in oncology where the goal is not only to target the tumor but to protect and empower the immune system itself," continued Dr. Soon-Shiong. "Through this Expanded Access Program, we can now offer hope to patients with solid tumors who have exhausted standard options. Our mission is to transform cancer care by reversing the immune collapse that often leads to progression and mortality by enabling the body to serve as a factory for the regeneration and reconstitution of the lymphocytes key to immunogenic cell death of the tumor. By mitigating treatment induced lymphopenia from our standards of care, ANKTIVA can serve as a Cancer Bioshield."

In February 2025, ImmunityBio announced it had received a Regenerative Medicine Advanced Therapy (RMAT) designation from the FDA for ANKTIVA and CAR-NK (PD-L1 t-haNK) for the reversal of lymphopenia in patients receiving standard-of-care chemotherapy/radiotherapy and in relapsed locally advanced or metastatic pancreatic cancer. The RMAT designation is intended to expedite the development of therapies targeting serious or life-threatening conditions with unmet medical need.

Full results of our 2025 ASCO Annual Meeting can be found below:

Association of lymphopenia rescue and CA19-9 levels with overall survival following IL-15 superagonist N-803 and PD-L1 t-haNK chemo-immunotherapy for 3rd line or greater metastatic pancreatic cancer.
Abstract Text: https://meetings.asco.org/abstracts-presentations/246953
Poster PDF: https://immunitybio.com/asco-2025-a/

QUILT 3.076 phase 1 study of memory-like cytokine-enriched natural killer (M-CENK) cells plus N-803 in locally advanced or metastatic solid tumors.
Abstract Text: https://meetings.asco.org/abstracts-presentations/252261
Poster PDF: https://immunitybio.com/asco_2025-b/

About the Cancer BioShield™ Platform

The Cancer BioShield platform is a first-in-class immunotherapy strategy designed to restore immune competence by reversing lymphopenia—the loss of functional immune cells caused by cancer itself and by conventional treatments such as chemotherapy, radiation and immunotherapy. At its core is ANKTIVA® (nogapendekin alfa inbakicept-pmln), an IL-15 agonist approved for BCG-unresponsive non–muscle-invasive bladder cancer CIS with or without papillary disease, activates and proliferates natural killer (NK) cells and CD4+ and CD8+ T cells, restoring lymphocyte levels critical for immunosurveillance, immunogenic cell death, and long-term tumor control.

The platform employs a multi-modal approach:

- **In-vivo stimulation:** Subcutaneous administration of ANKTIVA expands NK and T cells, boosting anti-tumor immunity.
- **Ex-vivo targeted cytotoxicity:** Off-the-shelf PD-L1 t-haNK CAR-NK cells are engineered to target and eliminate PD-L1–expressing tumor cells and immunosuppressive neutrophils (myeloid-derived suppressor cells), enhancing anti-tumor specificity and reducing immune evasion.
- **Memory Cytokine-Enriched Natural Killer (M-ceNK) cell therapy:** M-ceNK cells are developed via cytokine activation and expansion of autologous and allogeneic NK cells collected through apheresis, potentially providing long-term immune memory and sustained cytotoxic capacity.

Together, these components offer a comprehensive, novel, immune-restoring therapeutic platform aimed at not only expanding effector immune cells, but also overcoming tumor-mediated immune suppression to support long-term disease control.

The platform's effectiveness can be tracked through universally utilized simple complete blood count (CBC): increases in absolute lymphocyte count (ALC) reflect ANKTIVA's lymphocyte-stimulating activity, while reductions in the neutrophil-to-lymphocyte ratio (NLR) demonstrate PD-L1 t-haNK's immunosuppressive neutrophil targeting. Low ALC and high NLR levels[6] are laboratory measurements that have been extensively reported as predictive biomarkers of poor prognosis with early mortality across all tumor types.[1-6] The data presented by ImmunityBio for the first time demonstrates that improving ALC and NLR correlates with significant enhanced overall survival and clinical benefit.

With potential applications extending beyond oncology—including infectious disease, sepsis, and immune senescence—the Cancer BioShield Platform represents a potentially transformative shift in treating not just the tumor, but the underlying immune collapse that allows disease to progress.

About Lymphopenia and Absolute Lymphocyte Count (ALC)

Lymphopenia—the loss of key immune cells such as NK, CD4+, and CD8+ T cells—is a common side effect of chemotherapy[1], radiation[2,3], and some immunotherapies[4]. Unlike anemia and neutropenia, which have FDA-approved treatments like EPOGEN and NEUPOGEN, no therapy previously existed to treat this immune cell depletion. Lymphopenia weakens the immune system, increases infection risk, and is linked to early death across many cancer types.[1-6] Low Absolute Lymphocyte Count (ALC) is a recognized poor prognostic marker. ANKTIVA® is the first approved therapy to restore lymphocyte levels by activating and expanding NK and T cells—without increasing immunosuppressive T regulatory cells[7].

More information on lymphopenia could be found on Twitter/X @DrPatSoonShiong articles here: https://x.com/DrPatSoonShiong/articles

References:

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5. Ménétrier-Caux C., *et al*. Lymphopenia in Cancer Patients and its Effects on Response to Immunotherapy: an opportunity for combination with Cytokines? J Immunother Cancer. 2019 Mar 28;7(1):85. doi: 10.1186/s40425-019-0549-5. PMID: 30922400; PMCID: PMC6437964.
6. Templeton AJ, *et al.* Prognostic role of neutrophil-to-lymphocyte (NLR) ratio in solid tumors: a systematic review and meta-analysis. J Natl Cancer Inst. 2014 May 29;106(6):dju124. doi: 10.1093/jnci/dju124. PMID: 24875653.
7. FDA ANKTIVA Label, April 2024 - https://www.accessdata.fda.gov/drugsatfda_docs/label/2024/761336s000lbl.pdf

About ImmunityBio

ImmunityBio is a vertically-integrated biotechnology company developing next-generation therapies and vaccines that bolster the natural immune system to defeat cancers and infectious diseases. The Company's range of immunotherapy and cell therapy platforms, alone and together, act to drive

and sustain an immune response with the goal of creating durable and safe protection against disease. Designated an FDA Breakthrough Therapy, ANKTIVA is the first FDA-approved immunotherapy for non-muscle invasive bladder cancer CIS that activates natural killer cells, T cells, and memory T cells for a long-duration response. The Company is applying its science and platforms to treating cancers, including the development of potential cancer vaccines, as well as developing immunotherapies and cell therapies that we believe sharply reduce or eliminate the need for standard high-dose chemotherapy. These platforms and their associated product candidates are designed to be more effective, accessible, and easily administered than current standards of care in oncology and infectious diseases. For more information, visit ImmunityBio.com (Founder's Vision) and connect with us on X (Twitter), Facebook, LinkedIn, and Instagram.

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 clinical trial data and potential results and implications to be drawn therefrom, the expectation that the EAP described herein will enable patients to have access to ANKTIVA for the indication described, the RMAT designation as previously reported and potential results therefrom and regulatory submissions in connection therewith, the belief that ALC levels and NLR levels obtained from a CBC are predictors of clinical benefit and outcomes relating to overall survival, clinical trial and expanded access program enrollment, data and potential results to be drawn therefrom, anticipated components of ImmunityBio's Cancer BioShield platform, the development of therapeutics for cancer and infectious diseases, potential benefits to patients, potential treatment outcomes for patients, the described mechanism of action and results and contributions therefrom, potential future uses and applications of ANKTIVA alone or in combination with other therapeutic agents for the prevention or reversal of lymphopenia, potential future uses and applications of ANKTIVA alone or in combination with other therapeutic agents across multiple tumor types and indications and for potential applications beyond oncology, potential regulatory pathways and the regulatory review process and timing thereof, the application of the Company's science and platforms to treat cancers or develop cancer vaccines, immunotherapies and cell therapies that has the potential to change the paradigm in cancer care, and ImmunityBio's approved product and investigational agents as compared to existing treatment options, among others. 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," "goal," "could," "estimates," "scheduled," "expects," "intends," "may," "plans," "potential," "predicts," "indicate," "projects," "is," "seeks," "should," "will," "strategy," and variations of such words or similar expressions.

Statements of past performance, efforts, or results of our preclinical and 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 information may be limited or incomplete, and ImmunityBio's statements should not be read to indicate that it has conducted a thorough inquiry into, or review of, all potentially available relevant information. 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) risks and uncertainties regarding the FDA regulatory submission, filing and review process and the timing thereof, (ii) whether the RMAt designation will lead to an accelerated review or approval, of which there can be no assurance, (iii) risks and uncertainties regarding commercial launch execution, success and timing, (iv) risks and uncertainties regarding participation and enrollment and potential results from the expanded access clinical investigation program described herein, (v) whether clinical trials will result in registrational pathways and the risks, (vi) whether clinical trial data will be accepted by regulatory agencies, (vii) the ability of ImmunityBio to continue its planned preclinical and clinical development of its development programs through itself and/or its investigators, and the timing and success of any such continued preclinical and clinical development, patient enrollment and planned regulatory submissions, (viii) potential delays in product availability and regulatory approvals, (ix) ImmunityBio's ability to retain and hire key personnel, (x) ImmunityBio's ability to obtain additional financing to fund its operations and complete the development and commercialization of its various product candidates, (xi) potential product shortages or manufacturing disruptions that may impact the availability and timing of product, (xii) ImmunityBio's ability to successfully commercialize its approved product and product candidates, (xiii) ImmunityBio's ability to scale its manufacturing and commercial supply operations for its approved product and future approved products, and (xiv) ImmunityBio's ability to obtain, maintain, protect, and enforce patent protection and other proprietary rights for its product candidates and technologies. 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 10-K filed with the U.S. Securities and Exchange Commission (SEC) on March 3, 2025, and the Company's Form 10-Q filed with the SEC on May 12, 2025, 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.

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