

April 10, 2026



FibroBiologics Presents Novel Thymus Organoid Platform to Combat Age-Related Immune Decline at Keystone Symposia on Aging and Immunity

Preclinical models demonstrate potential to restore thymic function lost with aging reducing susceptibility to cancer, autoimmune diseases, infections, and reduced vaccine efficacy

HOUSTON, April 10, 2026 (GLOBE NEWSWIRE) -- FibroBiologics, Inc. (Nasdaq: FBLG) ("FibroBiologics" or the "Company"), a clinical-stage biotechnology company with 270+ patents issued and pending with a focus on the development of therapeutics and potential cures for chronic diseases using fibroblasts and fibroblast-derived materials, today announced preclinical data supporting the potential of its proprietary thymic organoid platform to reverse age-related immune decline by restoring thymic function lost over time.

The findings were presented at the Keystone Symposia on Aging and Immunity. A link to the poster can be found [here](#).

The thymus is the primary site of T cell development, responsible for producing and educating the immune cells that underpin adaptive immunity, the body's ability to recognize and respond to specific threats including cancer, pathogens, and aberrant self-cells. Thymic function begins declining early in life and accelerates with age, a process known as thymic involution. By midlife, the organ has lost the majority of its productive capacity, resulting in reduced T cell output, diminished immune diversity, and impaired immune surveillance. These changes are associated with increased susceptibility to infection, cancer, autoimmune disease, and reduced vaccine efficacy.

FibroBiologics developed a transplantable thymic micro-organoid system using selectively screened fibroblasts combined with thymic stromal cells. The organoids are produced through a rapid, three-day, matrix-free culture process and are cryopreservable and injectable, features designed with clinical scalability in mind.

In immunodeficient mouse models, transplanted thymic organoids successfully generated multiple T cell lineages, including alpha-beta ($\alpha\beta$) T cells, gamma-delta ($\gamma\delta$) T cells, natural killer T (NKT) cells, and FoxP3+ regulatory T cells. The organoid-derived T cells displayed a diverse T cell receptor (TCR) repertoire in vivo and demonstrated functional responses to multiple immune stimuli, indicating that the cells were not only present but biologically active.

Gene expression analysis confirmed that the organoids maintained expression of key factors required to sustain T cell development and maturation in both culture and in vivo settings, suggesting the platform can authentically recapitulate core aspects of thymic biology.

In a targeted cancer model, organoids derived from pmel-1 thymocytes, cells pre-programmed to recognize a melanoma-associated antigen, generated antigen-specific T cells that slowed tumor growth in mice. The anti-tumor response extended beyond T cells, with enhanced activation of natural killer (NK) cells also observed. Results were consistent across tumor site and draining lymph node analyses, pointing to a systemic immune response rather than a localized effect.

"Age-related immune decline is one of the most consequential and under-addressed aspects of human health," said Hamid Khoja, Ph.D., Chief Scientific Officer of FibroBiologics. "These data highlight the remarkable versatility of fibroblasts as a biological building block. Our organoid platform not only restores diverse thymic function in preclinical models but can also generate antigen-specific T cells with demonstrated anti-tumor activity. We see potential applications spanning age-related immune decline, recovery following chemotherapy or radiation, and congenital disorders caused by loss of thymic function."

For more information, please visit FibroBiologics' [website](#), email FibroBiologics at info@fibrobiologics.com or follow FibroBiologics on [LinkedIn](#), [YouTube](#), [Facebook](#) or [X](#).

Forward-Looking Statements

This communication contains "forward-looking statements" as defined in the Private Securities Litigation Reform Act of 1995. Forward-looking statements include information concerning the potential and capabilities of fibroblasts and artificial thymus organoids to recover the lost functionality of the thymus, the potential of FibroBiologics' proprietary thymic organoid platform, and the potential applications and clinical benefits of fibroblasts and fibroblast-derived materials. These forward-looking statements are based on FibroBiologics' management's current expectations, estimates, projections and beliefs, as well as a number of assumptions concerning future events. When used in this communication, the words "estimates," "projected," "expects," "anticipates," "forecasts," "plans," "intends," "believes," "seeks," "may," "will," "should," "future," "propose" and variations of these words or similar expressions (or the negative versions of such words or expressions) are intended to identify forward-looking statements. These forward-looking statements are not guarantees of future performance, conditions or results, and involve a number of known and unknown risks, uncertainties, assumptions and other important factors, many of which are outside FibroBiologics' management's control, that could cause actual results to differ materially from the results discussed in the forward-looking statements, including those set forth under the caption "Risk Factors" and elsewhere in FibroBiologics' annual, quarterly and current reports (i.e., Form 10-K, Form 10-Q and Form 8-K) as filed or furnished with the SEC and any subsequent public filings. Copies are available on the SEC's website, www.sec.gov. These risks, uncertainties, assumptions and other important factors include, but are not limited to: (a) expectations regarding the initiation, progress and expected results of our R&D efforts and preclinical studies; (b) the unpredictable relationship between R&D and preclinical results and clinical study results; (c) risks related to FibroBiologics' liquidity and its ability to maintain capital resources sufficient to conduct its business, and (d) the ability of FibroBiologics to successfully prosecute its patent applications. Forward-looking statements speak only as of the date they are made. Readers are cautioned not to put undue reliance on forward-looking statements, and FibroBiologics assumes no obligation and, except as required by law, does not intend to update or revise these forward-looking statements, whether as a result of new information, future events, or otherwise. FibroBiologics gives no

assurance that it will achieve its expectations.

About FibroBiologics

Based in Houston, FibroBiologics is a clinical-stage biotechnology company developing a pipeline of treatments and seeking potential cures for chronic diseases using fibroblast cells and fibroblast-derived materials. FibroBiologics holds 270+ US and internationally issued patents/patents pending across various clinical pathways, including wound healing, multiple sclerosis, disc degeneration, psoriasis, orthopedics, human longevity, and cancer. FibroBiologics represents the next generation of medical advancement in cell therapy and tissue regeneration. For more information, visit www.FibroBiologics.com.

General Inquiries:

info@fibrobiologics.com

Investor Relations:

Nic Johnson

Russo Partners

(212) 845-4242

fibrobiologicsIR@russopr.com

Media Contact:

Liz Phillips

Russo Partners

(347) 956-7697

Elizabeth.phillips@russopartnersllc.com



Source: FibroBiologics, Inc.