
**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549**

FORM 6-K

**REPORT OF FOREIGN PRIVATE ISSUER PURSUANT TO RULE 13a-16 OR 15d-16 UNDER THE SECURITIES
EXCHANGE ACT OF 1934**

For the month of May 2024

Commission File Number: **001-39777**

Nanobiotix S.A.

(Translation of registrant's name into English)

60 Rue de Wattignies 75012 Paris, France

(Address of principal executive office)

Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F.
Form 20-F Form 40-F

On May 21, 2024, the Registrant issued a press release, a copy of which is attached hereto as Exhibit 99.1 and is incorporated herein by reference.

[\(c\) Exhibit 99.1. Press release dated May 21, 2024](#)

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Nanobiotix S.A.
(Registrant)

Date: May 21, 2024

/s/ Bart Van Rhijn
Bart Van Rhijn
Chief Financial Officer

Nanobiotix Announces Progress in Global NBTXR3 Development Collaboration Highlighting Robust Pipeline and Pathway to Long-Term Growth

- Updated Nanobiotix corporate strategy designed to enable long-term growth through execution of the global NBTXR3 collaboration and platforms beyond NBTXR3
- Alignment of intent to transfer the sponsorship of the ongoing Phase 3 pivotal trial in head and neck cancer to begin preparations for potentially positive trial results and subsequent steps
- Alignment to Phase 3 head and neck cancer study modifications designed to optimize the regulatory pathway, including intended removal of the now unnecessary futility analysis, and opting to conduct the planned interim analysis after the end of recruitment in 1H2026
- Received US FDA “Study May Proceed” letter for a new randomized Phase 2 study evaluating NBTXR3 in stage 3 lung cancer after review of the Investigational New Drug application
- Robust pipeline of ongoing and completed studies that could inform development of new indications beyond immediate priorities in head and neck cancer and lung cancer
- Operational progress update on Nanobiotix nanoparticle-based therapy platforms beyond NBTXR3 expected in 2H2024

PARIS and CAMBRIDGE, Mass., May 21, 2024 (GLOBE NEWSWIRE) -- NANBIOTIX (Euronext : NANO — NASDAQ: NBTX – the “**Company**”), a late-clinical stage biotechnology company pioneering nanoparticle-based therapeutic approaches to expand treatment possibilities for patients with cancer and other major diseases, today announced updates to its corporate strategy designed to enable long-term growth in view of significant progress in the Company’s collaboration for the co-development and global commercialization of lead therapeutic candidate NBTXR3.

Nanobiotix is developing three nanoparticle-based therapy platforms in sequence. The first therapeutic candidate from the first platform, potential first-in-class radioenhancer NBTXR3, is being developed and potentially commercialized in collaboration with NBTXR3 global licensee Janssen Pharmaceutica NV (“Janssen”), a Johnson & Johnson company. Nanobiotix plans to leverage the sustainable revenue it expects to come from the development and commercialization of NBTXR3 to further advance development of the two other platforms described in the conclusion of this announcement.

“Nanobiotix has long been known for the disruptive potential of NBTXR3 for patients with cancer around the world,” said Laurent Levy, chief executive officer at Nanobiotix and chairman of the executive board. “The accomplishments we have achieved throughout our 20-year history stand as a testament to the hard work of our team, the potential value the biopharmaceutical industry at-large sees in our technology, as well as the tremendous faith and confidence our investors and other financiers hold in our vision and our management. Moreover, this global licensing agreement has us well-positioned to secure the path to market for NBTXR3—and our commitment to realize the radioenhancer’s medical and economic value remains our most important goal—but the time has also come for Nanobiotix to lead the next generation of nanoparticle-based therapies in healthcare.”

Delivering Potentially Curative Outcomes for Patients with Locally Advanced and Metastatic Cancers

NBTXR3 is being evaluated as a therapeutic candidate that could integrate into the cancer treatment paradigm for the 60% of patients with cancer who receive radiotherapy (“RT”) as part of their therapeutic regimen each year. To date, NBTXR3 has been injected in hundreds of patients by leading physicians at several pre-eminent clinical research institutions in the United States, Europe, and Asia.

The current NBTXR3 development program is initially focused on the completion of NANORAY-312, an ongoing pivotal phase 3 study evaluating the radioenhancer for elderly patients with locally advanced head and neck cancer (“LA-HNSCC”), and the launch of a randomized Phase 2 study evaluating NBTXR3 for patients with stage 3 non-small cell lung cancer (“NSCLC”) for which Janssen is fully responsible.

Preparing NANORAY-312 for Potential Regulatory Submission

In preparation for potential regulatory submission in the event of positive trial results, Nanobiotix and Janssen aligned at the collaboration’s Joint Strategy Committee (“JSC”) to transfer the global sponsorship of the Phase 3 pivotal head and neck cancer trial. Nanobiotix will continue to support Janssen in execution of NANORAY-312 during and after the sponsorship transfer is complete. Study operations will remain ongoing during the transfer.

Following discussions that began at the end of 2023, and in view of the intended transfer of the sponsorship, the JSC recently aligned to a protocol amendment that would remove the planned futility analysis in light of robust, positive final data from the expansion part of Study 102, a Phase 1 study evaluating NBTXR3 in a similar population. Given that the Study 102 results provided satisfactory support for the NANORAY-312 trial design, the futility analysis was deemed unnecessary. This amendment is subject to review and approval by health authorities in all countries where NANORAY-312 is operational as well as by the sites participating in the study. To date, the amendment has been accepted by health authorities in several major regions in the study.

Additionally, Nanobiotix and Janssen have agreed to a change in approach to the planned interim analysis such that interim data will analyzed and reported after both the requisite number of events have been observed and the last patient has been recruited in 1H2026, rather than immediately after the requisite number of events as originally planned. This revised approach helps to ensure that potentially positive trial results do not influence recruitment prior to completion of the study. As such, Nanobiotix now expects the interim analysis to be reported after the last patient is recruited in 1H2026.

“Bringing a therapeutic candidate from concept to global registration is an exciting, yet daunting proposition for any biotechnology company, even those working within well-known asset classes with well-worn development and regulatory pathways,” said Louis Kayitalire, MD, chief medical officer at Nanobiotix. “That is why our global licensing agreement with Janssen is great news for patients, for healthcare professionals, and for all other supporters of NBTXR3’s potential. We are confident that the leadership of the JSC will optimize the probability of success for NANORAY-312.”

Nanobiotix is currently vetting options for extension of the Company’s cash runway beyond the current expectation of 3Q2025.

Advancing the NBTXR3 Collaboration

Nanobiotix and Janssen have made significant progress in establishing development operations in the collaboration since execution of the global licensing agreement in July 2023.

Operational progress highlights:

- Established a JSC comprised equally of executives from both companies to drive strategic decision making for the global development program
- Activated Joint Working Teams staffed by both companies with an initial focus on manufacturing and preparing NANORAY-312 for global regulatory submission in the event of a positive interim analysis
- Began replication of Nanobiotix manufacturing processes to equip Janssen to produce NBTXR3 in parallel with ongoing production activities at Nanobiotix facilities
- Began allocation of discretionary in-kind contributions from Janssen to Nanobiotix along with payments for manufacturing technical assistance and other product development support services
- Achieved the first operational milestone in NANORAY-312, triggering a \$20M milestone payment from Janssen to Nanobiotix
- Received US FDA “Study May Proceed” letter for a Janssen-led Phase 2 NSCLC study after review of the Investigational New Drug application
- Began elaboration of the overall clinical development plan for NBTXR3 including new indications beyond LA-HNSCC and stage 3 NSCLC
- Consolidated global development and commercialization rights with Janssen via the Janssen purchase of rights to China and other Asian Markets from former Nanobiotix partner LianBio

Evolving the NBTXR3 Development Pipeline

The global licensing agreement between Nanobiotix and Janssen established a framework for potential, complementary co-development of relevant indications in the near, medium, and long term. This framework includes the potential for Nanobiotix to lead new randomized Phase 2 NBTXR3 studies. The JSC will ultimately determine the next indications beyond the immediate operational priorities in LA-HNSCC and stage 3 NSCLC. Nanobiotix expects the current pipeline, as detailed below, to play an important role in the JSC decision-making process:

1. Validating the safety and efficacy of RT-activated NBTXR3 for patients with LA-HNSCC and stage 3 NSCLC in the near-term
 - Pivotal Phase 3 Study Evaluating RT + NBTXR3 with or without cetuximab for Elderly and Frail Patients with **LA-HNSCC who are Ineligible for Cisplatin** Chemotherapy (NANORAY-312)
 - Lead: Nanobiotix (Intent to transfer global sponsorship aligned)
 - Status: Ongoing
 - Next Step: Last patient recruited 1H2026
 - Randomized Phase 2 Study Evaluating NBTXR3 + Chemoradiation + anti-PD-L1 for Patients with **Inoperable, Stage 3 NSCLC**
 - Lead: Janssen
 - Status: “Study May Proceed” letter received
 - Next Step: First patient randomized
2. Exploring the safety and efficacy of RT-activated NBTXR3 for patients with recurrent or metastatic (R/M) HNSCC that is naïve or resistant to anti-PD-1 in the medium term
 - Phase 1 Study Evaluating RT + NBTXR3 + Anti-PD-1 for Adult Patients with **Recurrent or Metastatic (“R/M”) HNSCC Naïve to Anti-PD-1** (Study 1100 Cohort 1)
 - Lead: Nanobiotix
 - Status: Dose escalation part completed and dose expansion part ongoing
 - Next Step: Presentation of first expansion part data at ASCO 2024

- Phase 1 Study Evaluating RT + NBTXR3 + Anti-PD-1 for Adult Patients with **Recurrent or Metastatic R/M HNSCC Resistant to Anti-PD-1** (Study 1100 Cohort 2)
 - Lead: Nanobiotix
 - Status: Dose escalation part completed and dose expansion part ongoing
 - Next Step: Presentation of first expansion part data at ASCO 2024

3. Establishing potential expansion opportunities in additional settings in the medium to long term

- Phase 1 Study Evaluating RT + NBTXR3 for Adult Patients with **Locally Advanced Pancreatic Cancer**
 - Lead: The University of Texas MD Anderson Cancer Center (“MD Anderson”)
 - Status: Dose escalation part completed and dose expansion part ongoing
 - Next Step: Presentation of updated data 2H2024
- Phase 1 Study Evaluating RT + NBTXR3 for Adult Patients with **Inoperable, Recurrent NSCLC Amenable to Re-irradiation**
 - Lead: MD Anderson
 - Status: Dose escalation part completed and dose expansion part ongoing
 - Next Step: Presentation of first data 1H2025
- Phase 1 Study Evaluating RT + NBTXR3 + Chemotherapy for Adult Patients with **Locally Advanced Esophageal Cancer**
 - Lead: MD Anderson
 - Status: Dose escalation part ongoing
 - Next Step: Completion of dose escalation part in 2024, initiation of dose expansion part, and presentation of first data 2025
- Phase 1 Study Evaluating RT + NBTXR3 + Anti-PD-1 for Adult Patients with **Multiple Advanced Tumors and Metastases Resistant to Anti-PD-1** (Study 1100 Cohort 3)
 - Lead: Nanobiotix
 - Status: Dose escalation part completed and dose expansion part ongoing
 - Next Step: Completion of dose expansion part and presentation of first data 2025
- Phase 1 Study Evaluating RT + NBTXR3 for Adult Patients with **Locally Advanced Liver Cancer and/or Liver Metastases**
 - Lead: Nanobiotix
 - Status: Phase 1 completed with primary endpoints met
 - Next Step: Potential new indication for further development in medium to long term
- Phase 1 Study Evaluating RT + NBTXR3 + Chemotherapy for Adult Patients with **LA-HNSCC**
 - Status: Completed with primary endpoints met
 - Next Step: Potential new indication for further development in medium to long term
- Phase 1 Study Evaluating RT + NBTXR3 + Chemotherapy for Adult Patients with **Locally Advanced Rectal Cancer**
 - Status: Phase 1 completed with primary endpoints met
 - Next Step: Potential new indication for further development in medium to long term

Validating the safety and efficacy of RT-activated NBTXR3 by moving to global registration in LA-HNSCC remains the immediate priority of Nanobiotix and accounts for the majority of operational and financial resource allocation.

The Company expects to provide an updated global development plan for NBTXR3 after alignment at the JSC.

[Updated NBTXR3 Global Development Pipeline Visualization \(as of May 21, 2024\)](#)

A chart accompanying this announcement is available at <https://www.globenewswire.com/NewsRoom/AttachmentNg/a8084032-4d70-4caf-b152-362cb6956fce>

*Janssen assumed responsibility for operations in Asia after securing global rights to NBTXR3 in China and Other Asian markets from former Nanobiotix collaborator LianBio. Nanobiotix and Janssen have also aligned to intent to transfer the global sponsorship.

Nanobiotix Beyond the NBTXR3 Collaboration

As the NBTXR3 program moves toward the ultimate goal of significantly improving outcomes for patients with cancer around the world through the execution of NANORAY-312, Nanobiotix plans to expand the impact of nanoparticle-based therapies in healthcare through continued early-stage development of Curadigm and OOcuity.

The Curadigm “Nanoprimer” platform features nanoparticles designed with specific physico-chemical properties that allow temporary occupation of the liver cells responsible for therapeutic clearance. This mechanism is intended to increase the blood bioavailability and subsequent accumulation of therapeutics in the targeted tissues, potentially providing the opportunity to increase the efficacy or decrease the toxicity of intravenously-administered medicines.

The OOcuity platform is based on the principle that nanoparticle materials can interact with and influence neuronal networks via their electrical properties, this potentially enabling the modulation of malfunctioning neuronal networks toward a “normal” state. In particular, the reduction of neuronal hyper-excitability associated with neuropathic pain in *in vitro* studies and in mouse models with several nanoparticle candidates.

Nanobiotix expects to provide the next update on the plan and operational progress of programs beyond NBTXR3 in 2H2024.

About NBTXR3

NBTXR3 is a novel, potentially first-in-class oncology product composed of functionalized hafnium oxide nanoparticles that is administered via one-time intratumoral injection and activated by radiotherapy. Its proof-of-concept was achieved in soft tissue sarcomas for which the product received a European CE mark in 2019. The product candidate’s physics-based mechanism of action (MoA) is designed to induce significant tumor cell death in the injected tumor when activated by radiotherapy, subsequently triggering adaptive immune response and long-term anti-cancer memory. Given the physics-based MoA, Nanobiotix believes that NBTXR3 could be scalable across any solid tumor that can be treated with radiotherapy and across any therapeutic combination, particularly immune checkpoint inhibitors.

Radiotherapy-activated NBTXR3 is being evaluated across multiple solid tumor indications as a single agent or in combination with anti-PD-1 immune checkpoint inhibitors, including in NANORAY-312—a global, randomized phase III study in locally advanced head and neck squamous cell cancers. In February 2020, the United States Food and Drug Administration granted regulatory Fast Track designation for the investigation of NBTXR3 activated by radiation therapy, with or without cetuximab, for the treatment of patients with locally advanced HNSCC who are not eligible for platinum-based chemotherapy—the same population being evaluated in the Phase 3 study.

Given the Company’s focus areas, and balanced against the scalable potential of NBTXR3, Nanobiotix has engaged in a collaboration strategy to expand development of the product candidate in parallel with its priority development pathways. Pursuant to this strategy, in 2019 Nanobiotix entered into a broad, comprehensive clinical research collaboration with The University of Texas MD Anderson Cancer Center to sponsor several Phase 1 and Phase 2 studies evaluating NBTXR3 across tumor types and therapeutic combinations. In 2023 Nanobiotix announced a license agreement for the global co-development and commercialization of NBTXR3 with Janssen Pharmaceutica NV, a Johnson & Johnson company.

About NANOBOTIX

Nanobiotix is a late-stage clinical biotechnology company pioneering disruptive, physics-based therapeutic approaches to revolutionize treatment outcomes for millions of patients; supported by people committed to making a difference for humanity. The company’s philosophy is rooted in the concept of pushing past the boundaries of what is known to expand possibilities for human life.

Incorporated in 2003, Nanobiotix is headquartered in Paris, France. The company also has subsidiaries in Cambridge, Massachusetts (United States), France, Spain, and Germany. Nanobiotix has been listed on Euronext: Paris since 2012 and on the Nasdaq Global Select Market in New York City since December 2020.

Nanobiotix is the owner of more than 30 umbrella patents associated with three (3) nanotechnology platforms with applications in 1) oncology; 2) bioavailability and biodistribution; and 3) disorders of the central nervous system. The company's resources are primarily devoted to the development of its lead product candidate—NBTXR3—which is the product of its proprietary oncology platform and has already achieved market authorization in Europe for the treatment of patients with soft tissue sarcoma under the brand name Hensify®.

For more information about Nanobiotix, visit us at www.nanobiotix.com or follow us on LinkedIn and Twitter

Disclaimer

This press release contains “forward-looking” statements within the meaning of the “safe harbor” provisions of the Private Securities Litigation Reform Act of 1995, including, but not limited to, statements regarding the use of proceeds therefrom, and the period of time through which the Company anticipates its financial resources will be adequate to support operations. Words such as “expects”, “intends”, “can”, “could”, “may”, “might”, “plan”, “potential”, “should” and “will” or the negative of these and similar expressions are intended to identify forward-looking statements. These forward-looking statements, which are based on our management’s current expectations and assumptions and on information currently available to management. These forward-looking statements involve known and unknown risks, uncertainties and other factors that could cause actual results to differ materially from those implied by the forward-looking statements, including risks related to Nanobiotix’s business and financial performance, which include the risk that assumptions underlying the Company’s cash runway projections are not realized. Further information on the risk factors that may affect company business and financial performance is included in

Nanobiotix's Annual Report on Form 20-F filed with the SEC on April 24, 2024 under "Item 3.D. Risk Factors", in Nanobiotix's 2022 universal registration document filed with the AMF on April 24, 2024, and subsequent filings Nanobiotix makes with the SEC from time to time which are available on the SEC's website at www.sec.gov. The forward-looking statements included in this press release speak only as of the date of this press release, and except as required by law, Nanobiotix assumes no obligation to update these forward-looking statements publicly.

Contacts

Nanobiotix

Communications Department

Brandon Owens
VP, Communications
+1 (617) 852-4835
contact@nanobiotix.com

Investor Relations Department

Craig West
SVP, Investor Relations
+1 (617) 583-0211
investors@nanobiotix.com

Media Relations

FR – Ulysse Communication

Laurent Wormser
+ 33 (0)6 13 12 04 04
lwormser@ulyссе-communication.com

Global – LifeSci Advisors

Kevin Gardner
+1 (617) 283-2856
kgardner@lifesciadvisors.com

Attachments

- 2024-05-21 -- NBTX -- Corporate Strategy Update -- FINAL (<https://ml.globenewswire.com/Resource/Download/89b1a51f-7dfd-4f3c-af4c-11925b2bd5ef>)
- Updated NBTXR3 Global Development Pipeline Visualization (as of May 21, 2024) (<https://ml.globenewswire.com/Resource/Download/a8084032-4d70-4caf-b152-362cb6956fce>)