

Nanobiotix announces Red Journal publication of preclinical data showing radioenhancer NBTXR3 may “reprogram” the tumor microenvironment to overcome anti-PD-1 resistance and evoke abscopal effect

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Data Published in the November 2021 Edition of the International Journal of Radiation Oncology, Biology, Physics (Red Journal)

- *Study hypothesized that NBTXR3 in combination with radiotherapy and anti-PD-1 could transform irradiated tumors into “self-vaccines” in anti-PD-1-sensitive and anti-PD-1-resistant mouse models*
- *Data supported the hypothesis that the triple combination could effectively control primary and metastatic tumors, evoke abscopal effect, and reduce the possibility of developing distant lung metastases*

Paris, France; Cambridge, Massachusetts (USA); September 28, 2021 – [NANOBIOTIX](#) (Euronext : NANO — NASDAQ: NBTX – the “ Company”), a late-clinical stage biotechnology company pioneering nanophysics-based approaches to expand treatment possibilities for patients with cancer, today announced the publication of preclinical findings with The University of Texas MD Anderson Cancer Center (MD Anderson) in the *International Journal of Radiation Oncology, Biology, Physics (Red Journal)*. These data support the further exploration of potential first-in-class, solid tumor-agnostic, therapeutic combination-agnostic radioenhancer NBTXR3 as a new therapeutic option seeking to induce significant tumor cell death when activated by radiotherapy, prime immune response, and overcome resistance to anti-PD-1.

View the full publication here: [https://www.redjournal.org/article/S0360-3016\(21\)00860-9/fulltext](https://www.redjournal.org/article/S0360-3016(21)00860-9/fulltext)

“Patients across the oncology landscape are in urgent need of innovation that can make a difference,” said Laurent Levy, co-founder and chief executive officer of Nanobiotix. “We are proud to collaborate with MD Anderson as we seek to validate the broadly applicable, local and systemic potential benefits of NBTXR3. The Red Journal provides a critical platform for the advancement of radiation oncology, and we believe this publication represents an important contribution to the academic and medical research communities as we seek to expand treatment possibilities for millions of patients with cancer.”

Background

Immune checkpoint inhibitors (ICIs) such as anti-PD-1 have shown tremendous promise for the treatment of some patients with metastatic tumors. Oncologists have hypothesized the possibility of combining ICIs with radiotherapy (RT) to control the irradiated tumor and turn those tumors into a “self-vaccine” that could improve systemic control of distant metastases as well. To date, however, most patients with cancer have shown resistance to anti-PD-1, limiting the effect of this combination.

This preclinical mouse model study conducted in collaboration between MD Anderson and Nanobiotix hypothesized that NBTXR3 could “reprogram” the tumor microenvironment in local and distant tumors, overcoming resistance to anti-PD-1 when activated by radiotherapy (RT) in mouse models of metastatic lung cancer.

Key Findings on the Triple Combination of NBTXR3 plus Radiotherapy plus Anti-PD-1 in the Mouse Model

- NBTXR3 improved tumor treatment in both anti-PD-1 sensitive and resistant models
- NBTXR3 promoted the activities of several antitumor immune pathways
- NBTXR3 increased cell death in irradiated tumor and facilitated immune response in unirradiated tumors
- NBTXR3 delayed the growth of targeted and distant tumors, improved survival rates, and reduced spontaneous metastases

Conclusion

This study supports further exploration of the triple combination of NBTXR3 plus RT plus anti-PD-1 as a new therapeutic option for the treatment of both primary and metastatic lung cancer, and the potential of this combination to achieve the promise of transforming irradiated tumors into “self-vaccines.” These results could support significance for the radioenhancer’s clinical application, as the strong activation of an effective immune response in anti-PD-1 resistant tumors may expand treatment possibilities for the majority of patients who do not respond to anti-PD-1 therapy.

About NANOBIOTIX

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, Germany and Switzerland.

Nanobiotix has been listed on the regulated market of Euronext in 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](#).

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Nanobiotix

Communications Department

Brandon Owens

VP, Communications

+1 (617) 852-4835

contact@nanobiotix.com

Investor Relations Department

Kate McNeil

SVP, Investor Relations

+1 (609) 678-7388

investors@nanobiotix.com

Media Relations

France – Ulysse Communication

Pierre-Louis Germain

+ 33 (0) 6 64 79 97 51

plgermain@ulyse-communication.com

US – Porter Novelli

Dan Childs

+1 (781) 888-5106

Dan.childs@porternovelli.com

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