

Immune-Targeting Vaccine Shows Promise Intercepting Cancer in Patients With Lynch Syndrome

NOUS-209, an off-the-shelf immunotherapy vaccine, trains the immune system to recognize and eliminate precancerous and cancerous cells.

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- Lynch syndrome significantly increases the lifetime risk of developing multiple cancers, including colorectal and endometrial.
- NOUS-209, an off-the-shelf immunotherapy vaccine created by Nouscom, trains the immune system to recognize and eliminate precancerous and cancerous cells.
- This Phase Ib/II study revealed durable immune responses, tumor-targeting activity and early evidence of cancer interception.

Houston – The investigational cancer vaccine, NOUS-209, was found to safely stimulate the immune system to target precancerous and cancerous cells in individuals with [Lynch syndrome \(LS\)](#), according to a study from researchers at The University of Texas MD Anderson Cancer Center.

The results of a Phase Ib/II clinical trial, published today in [Nature Medicine](#), provide early evidence that immune-based approaches, such as NOUS-209, may be able to intercept cancer before it develops, offering a potential new avenue for preventive care for high-risk individuals.

“Current management strategies for Lynch syndrome patients – frequent screenings or elective preventive surgery – are life-changing interventions that help prevent cancer development but can significantly affect quality of life,” said principal investigator [Eduardo Vilar-Sanchez, MD, PhD](#), chair ad interim of [Clinical Cancer Prevention](#). “By teaching the immune system to recognize and attack abnormal cells, this therapy offers a promising new approach to this patient population, who face a significantly higher risk of colorectal, endometrial, urothelial and other cancers.”

What is Lynch Syndrome?

Lynch syndrome is caused by inherited mutations in mismatch repair (MMR) genes, which normally help fix DNA errors. Patients with LS have a genetic predisposition to develop cancers with [microsatellite instability](#) and often develop cancers at a younger age than the general population, meaning they may benefit from increased screening and preventive strategies.

What is NOUS-209 and what did the researchers learn about the therapy in this study?

NOUS-209 is an experimental cancer vaccine that helps the immune system recognize cancer cells. It works by showing your immune system clear “practice targets” from cancer cells so it can learn to spot and attack the real ones in your body.

NOUS-209 was generally well tolerated, with no serious side effects related to treatment. All participants developed strong immune responses from T cells that recognize and attack cancer-related targets, and these responses increased further with annual retreatment. In laboratory testing, the vaccine-induced T cells were able to kill tumor cells and showed signs of long-lasting immune memory.

One year after treatment, researchers observed fewer precancerous lesions and no new advanced polyps, providing early evidence that NOUS-209 may help stop cancer before it develops.

What are the limitations of this study?

The Phase Ib/II study was relatively small (45 patients) and designed to evaluate safety and immunogenicity, rather than definitive clinical outcomes.

Next, researchers will work to understand how NOUS-209 can induce immune responses in larger and higher-risk populations of LS carriers. Optimal dosing schedules and durability of immune protection over multiple years also is under investigation.

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