



New study further validates Noxopharm's cancer pipeline

Highlights

- **Proof-of-principle that Noxopharm technology helps initiate immune response with normally 'immune-silent' cellular RNA**
- **Data validates company's immune-amplifying oligonucleotides**
- **Supports combination strategy with existing standard-of-care cancer therapies**

Sydney, 4 August 2026: Clinical-stage biotech company **Noxopharm Limited (ASX:NOX)** is pleased to announce new preclinical data demonstrating the potential of its cancer-fighting technology.

The immune system plays a vital role in fighting cancer. While many treatments focus on destroying cancer cells directly, some cells can escape or become resistant to treatment. By training the immune system to recognise and attack cancer cells, it can help seek out and remove them throughout the body, reducing the chance that any remain.

When cancer cells die, they leave behind cellular debris that is normally cleaned up by the immune system. This debris includes RNA, a molecule found in all cells. While the remains of cancer cells could help the immune system recognise and fight cancer, cancer cells also have abundant 'immune-silencing' RNA, allowing them to avoid initiating a cancer-targeted immune response.

Simply put, the immune cells cannot distinguish the cancerous debris from the debris of normal healthy cells. This means the immune system misses the opportunity to recognise and attack any cancer cells that remain in the body.

Earlier this year, Noxopharm and its collaborators published research in [*Nature Immunology*](#) showing how this 'immune-silencing' RNA works to limit immune system activation. The team also identified a way to counter this effect by boosting the activity of Toll-like receptor 8 (TLR8), a key sensor that helps the immune system recognise potential threats.

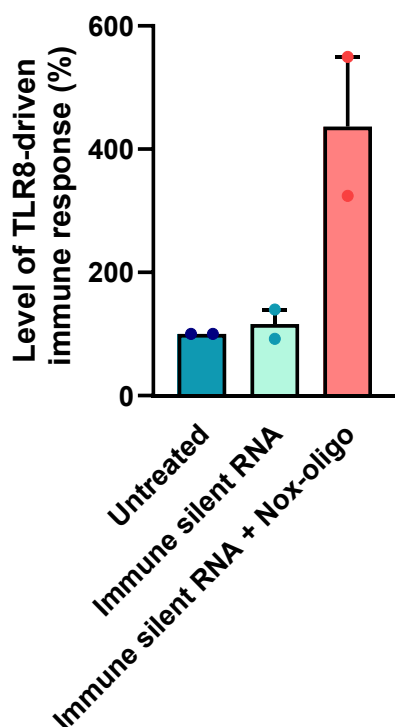
In the latest study, Noxopharm's oligonucleotides, which are short synthetic RNA sequences, helped the immune system recognise and respond to cellular RNA that would normally go unnoticed.

This breakthrough could pave the way for a new type of cancer treatment that works alongside existing therapies, such as chemotherapy and radiotherapy, to help the immune system better initiate its anti-cancer response.

The immune response to cellular RNA containing 'immune-silencing' RNA was tested *in vitro* with and without one of Noxopharm's TLR8-amplifying oligonucleotides. As expected, the RNA alone failed to activate a TLR8-driven immune response.

However, when combined with the TLR8-amplifying oligonucleotide, the same RNA induced a strong TLR8-mediated immune response that exceeded fourfold the level observed in untreated cells.

Figure 1 – A Sofra™ oligonucleotide enables TLR8-driven immune response to otherwise immune-silent cellular RNA *in vitro*



Total RNA (labelled as 'immune silent RNA' in the figure) from human HEK cells was isolated containing ribosomal RNA that can generate inhibitory RNA fragments for TLR8. Human TLR8-harboring HEK cells were treated with the 5 µg of total RNA and showed no change in response compared to untreated cells. When 5 µM of a TLR8-potentiating oligonucleotide was combined with the same total RNA treatment, the TLR8-driven immune response reached 437% of the level measured in the untreated group.

Level of TLR8-driven immune response: Level of an immune activation biomarker was measured and normalized to the untreated group; Total RNA: all cellular RNA molecules extracted from human cells, including ribosomal RNA that contains TLR8-inhibitory motifs; Nox-oligo: a TLR8-potentiating oligonucleotide. Data graphed as Mean ± SEM (Standard Error of Mean).

This new data demonstrates the potential of Noxopharm's TLR8-potentiating oligonucleotides strategy to unblind immune cells to cancer RNA and unleash immune activation.

The study was carried out in collaboration with Hudson Institute of Medical Research, Noxopharm's key strategic partner in the development of the Sofra™ technology platform.

Hudson Institute's Professor Michael Gantier said: "This exciting finding is proof-of-principle that the anti-inflammatory nature of cellular RNA we recently discovered can be overcome by specific oligonucleotides. While follow-up work is underway to show how these potentiators could increase anti-tumoral responses, this finding establishes the validity of this concept."

Noxopharm CEO Dr Olivier Laczka said: "We are very encouraged by the new findings as they significantly broaden the potential applications of our TLR8-potentiating technology. We have now shown that the technology enables TLR8 activation in response to the sensing of RNA, which has potentially significant benefits given that cancer patients around the world are already being treated with cancer cell-killing therapeutics."

“There is an elegant scientific symmetry across our pipeline. In oncology, our TLR8-potentiating oligonucleotides seek to enhance immune recognition of RNA released following cancer cell death. In autoimmune disease, our inhibitory oligonucleotides are designed to suppress inappropriate immune activation driven by self-RNA. Together, these programs demonstrate our ability to modulate the same innate immune pathway in opposite directions to address very different diseases.”

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About the Sofra technology platform

Developed from a [breakthrough discovery](#) in innate immunology, the Sofra technology platform represents a revolutionary approach to drug design by translating a new understanding of innate biology into targeted therapeutics that enable precision control of disease-relevant signalling.

Sofra is based on the use of synthetic nucleic acids, known as oligonucleotides, to mimic natural regulators of the body's defence system.

This novel approach enables selective and modular tuning of immune sensors, reducing or stimulating their associated biological responses to mitigate a broad range of diseases and enhance RNA-based therapies and emerging therapeutic technologies.

[Sofra](#) is focused on inflammatory and autoimmune diseases such as rheumatoid arthritis, lupus and diabetes, as well as immuno-oncology for cancer treatment. The global autoimmune disease therapeutics market was worth US\$163.2 billion in 2024 and is expected to reach US\$219.6 billion by 2035, while the worldwide immuno-oncology market was US\$43 billion in 2023 and is projected to hit US\$284 billion by 2033.

Further information and animations: [SOF-SKN](#) / [SOF-VAC](#)

About Noxopharm

Noxopharm Limited (ASX:NOX) is a clinical-stage Australian biotech company discovering and developing novel treatments for cancer and inflammation, including a pioneering technology to improve the safety profile of a wide range of mRNA medicines.

The company utilises specialist in-house capabilities and strategic partnerships with leading researchers to build a growing pipeline of new proprietary drugs based on two technology platforms – Sofra™ (inflammation, autoimmunity, mRNA drug enhancement, and oncology) and Chroma™ (oncology).

To learn more, please visit: noxopharm.com

About Hudson Institute of Medical Research

A global bioscience medical research leader, Hudson Institute's sole focus is on powering breakthrough scientific discoveries into improved health care that will transform lives. We strive to improve human health through ground-breaking, collaborative medical research discoveries and their translation to real world impact. Hudson Institute scientists research five areas of medical need:

- Inflammation

- Reproductive health and pregnancy
- Infant and child health
- Cancer
- Hormones and health

To learn more, please visit: www.hudson.org.au

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Noxopharm CEO Dr Olivier Laczka has approved the release of this document to the market on behalf of the Board of Directors.

Forward Looking Statements

This announcement may contain forward-looking statements. You can identify these statements by the fact they use words such as “aim”, “anticipate”, “assume”, “believe”, “continue”, “could”, “estimate”, “expect”, “intend”, “may”, “plan”, “predict”, “project”, “plan”, “should”, “target”, “will” or “would” or the negative of such terms or other similar expressions. Forward-looking statements are based on estimates, projections and assumptions made by Noxopharm about circumstances and events that have not yet taken place. Although Noxopharm believes the forward-looking statements to be reasonable, they are not certain. Forward-looking statements involve known and unknown risks, uncertainties and other factors that are in some cases beyond the Company’s control (including but not limited to the COVID-19 pandemic) that could cause the actual results, performance or achievements to differ materially from those expressed or implied by the forward-looking statement.