

Safer RNA Vaccines and Therapeutics

Noxopharm Ltd (ASX:NOX) is an innovative Australian biotech company discovering and developing novel proprietary anti-inflammatory technologies, including a pioneering approach to optimising mRNA vaccines. Led by a highly experienced management team, its Sofra™ platform covers mRNA vaccines and the treatment of autoimmune and inflammatory diseases.

Improving mRNA Vaccines

The Noxopharm Sofra™ technology platform is based on ultra short oligonucleotides with diverse applications to modulate inflammation. The lead candidate in the Sofra platform is SOF-VAC™, a novel mRNA vaccine enhancer.

Noxopharm and its subsidiary Pharmorage, in strategic collaboration with the Hudson Institute of Medical Research, have developed several preclinical 3-base oligos (3-mers) that have displayed highly potent and selective reduction of inflammation through binding to Toll-like receptors 7 and 8 (TLR7 and TLR8).

These ultra-short oligos represent a new class of drugs, and are significant due to their extremely potent anti-inflammatory activities.

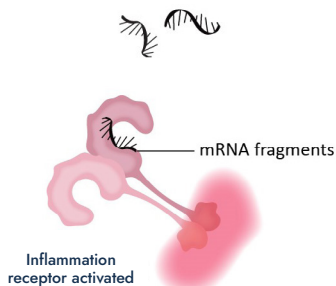
When an mRNA vaccine is injected, the mRNA breaks down into fragments, some of which activate the TLR7 inflammation receptors. This results in overstimulation that

causes inflammation. In contrast, SOF-VAC blocks TLR7 inflammation receptors, thereby reducing the inflammation caused by mRNA vaccines at its source.

SOF-VAC has a well-defined selective mechanism of action and has been developed to improve the safety of mRNA vaccines while preserving vaccine efficacy. It offers the mRNA vaccine industry the opportunity to enhance existing vaccines and to broaden the range of mRNA technologies, for example regarding mRNA therapeutics being developed for new treatments.

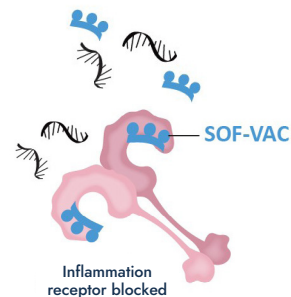
The Hudson Institute of Medical Research and Pharmorage have recently been supported with AU\$3 million in government grants. In terms of financial opportunity, the mRNA market in 2021 was US\$42 billion, and is expected to grow to US\$128 billion by 2030 at a compound annual growth rate of 13%.

Current mRNA vaccines



mRNA vaccine fragments bind to inflammatory receptors in the body (called TLR7) causing overstimulation which results in inflammation, and other vaccine side-effects e.g. fever, muscle ache and fatigue.

mRNA vaccine with SOF-VAC™



When **SOF-VAC** is combined with the mRNA vaccine, it blocks the inflammation receptors and reduces vaccine side-effects.