

Our company

At Quantoom Biosciences, scientists and engineers are committed to solving some of the biggest challenges facing (sa)mRNA-based vaccines and therapeutics production.

Located in Belgium, Quantoom Biosciences thrives in a dynamic biotech ecosystem, driving innovation in RNA (i.e. mRNA and saRNA) production to make life-changing therapies available to everyone, everywhere.

BELGIUM

Quantoom Biosciences Headquarters.
Showroom for Ntensify® technologies.

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Ntensify[®]mano

Quantoom
Biosciences

saRNA production and purification kit for up to 3.2 mg

The **Ntensify mano** is an all-in-one, cost-effective saRNA production and purification kit combining convenience, efficiency, and control. It includes all reagents needed to produce up to 3.2 mg of purified saRNA in less than half a day.

This saRNA production kit performs the **Ntensify process** for cost-effective production of purified saRNA, with a high-quality profile while minimizing impurities.



Click or scan the QR code to watch the video presentation

Key figures

Up to
3.2 mg
of purified saRNA

From linear
DNA to purified
saRNA in under
3 hours

1 pot IVT
with co-
transcriptional
capping

1-step
magnetic silica
bead-based
purification

Redesigned Process

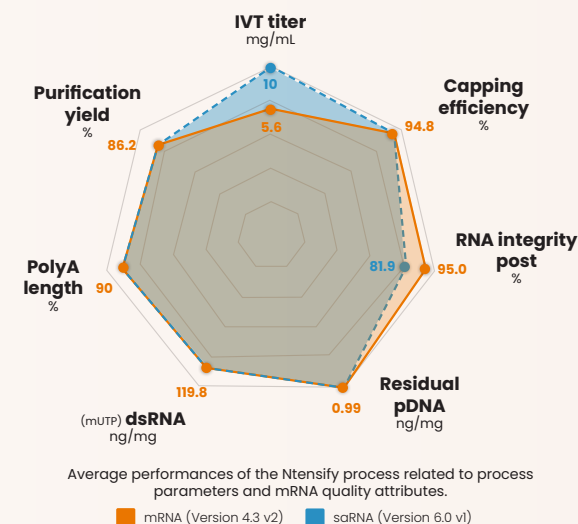
By opting for a single-step bead-based purification method to streamline DSP and reduce process-related losses.

Optimized Process

By optimizing the IVT & DSP to increase RNA quality, minimizing the DSP constraints.

Demonstrated by robust DoE

- > 2000 individual mRNA reactions
- > 500 individual saRNA reactions
- 100+ Different constructs tested
- Different mRNA Sizes (1 to 4kb)
- Different saRNA sizes (8 to 12Kb)



Trusted by



Supported by



Member of



We further developed our Ntensify mRNA process for its use on saRNA

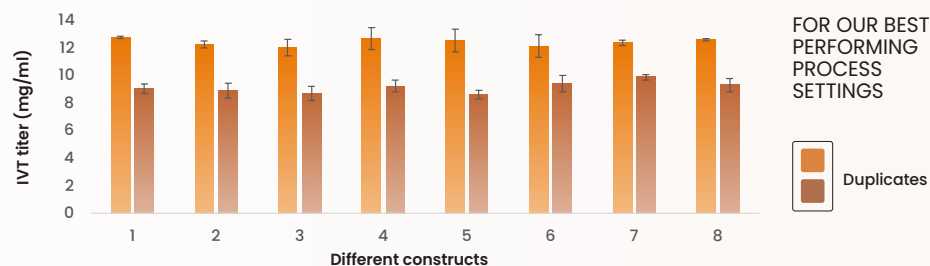
Study design

- 8 saRNA constructs (duplicated)
- 2 independent experiments
- Construct size: 8–12 kb

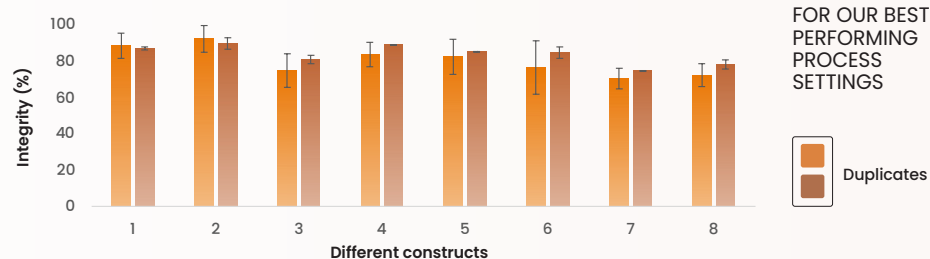
Key improvements

- Average yield >2× higher (vs. mRNA)
- Integrity +10% (for longer constructs)
- Enhanced performance across all constructs

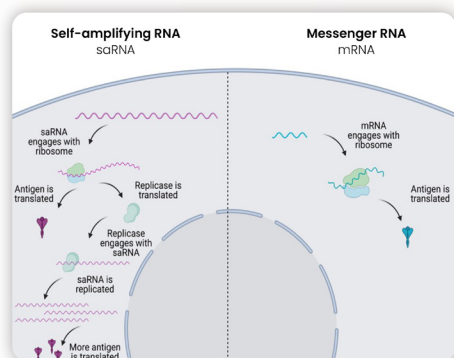
Results showing consistent IVT titers averaging 8–12g/L, across a variety of constructs and a broad range of construct lengths



Results showing consistent integrity measurements averaging 81.9%, across a variety of constructs and a broad range of construct lengths

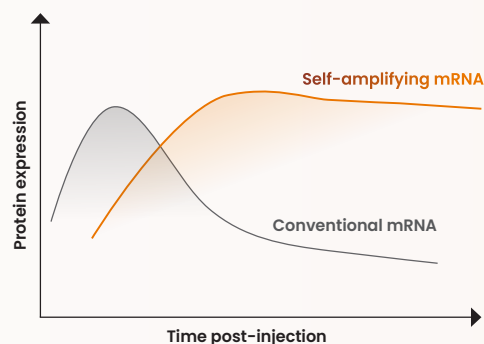


Beyond mRNA, **saRNA further increase vaccines affordability and efficacy**

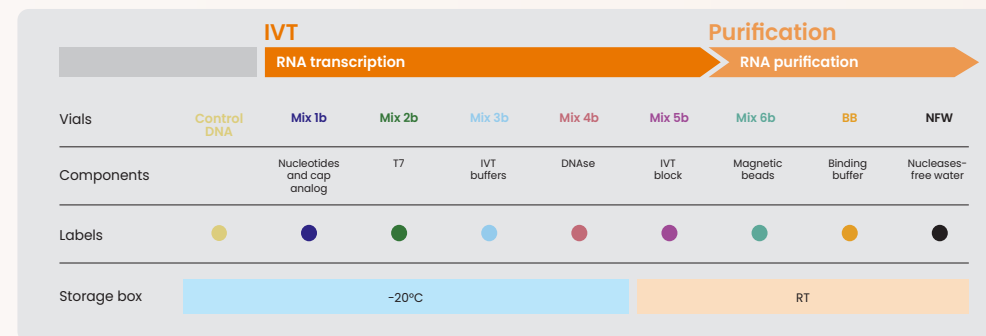


Source: DOI: 10.1042/bio_2021_142

Compared to mRNA, **saRNA provides a longer-lasting expression**



The kit contains 8 mixes. saRNA can be produced in less than half a day and uses standard lab equipment such as a thermo-shaker, a vortex and a benchtop centrifuge making it accessible to researchers of all experience levels.



Visualization of Ntensify mano components and process: integrated IVT and purification.

Adopted by



“The Quantoom saRNA kit makes high-quality saRNA production fast and simple. It is now our benchmark in saRNA workflows”

Ntensify product line

All the production technologies in our product line leverage the same Ntensify process, at any scale. This confers reproducibility to our product line and enables consistency of CQA's and CPP's at every scale, from R&D to commercial production in GMP facilities.

mano



Entry point for RNA construct assessment
In vitro & in vivo studies

micro



Drug discovery & pre-clinical phase
Up to 96 constructs

mini



Drug discovery & pre-clinical phase
Up to 48 constructs

midiflex



Clinical trials & commercial production

mRNA capacity per batch (purified naked mRNA)

125 µg – 3 mg

400 µg – 100 mg

8 mg – 92 mg

0.1 g – 4 g

saRNA capacity per batch (purified naked saRNA)

320 µg – 2.5 mg

640 µg – 128 mg

10 mg – 123 mg

0.128 g – 5 g

Level of automation & run duration

Manual in 4 hours

From 4 to 6 hours

Automated in under 1 day