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.

Visit our website

www.quantoom.com

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Trusted by

Supported by

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Ntensify® mano

Quantoom Biosciences

mRNA production and purification kit for up to 3 mg

mRNA
ALSO IN saRNA

The **Ntensify® mano** is an all-in-one, cost-effective mRNA production and purification kit combining convenience, efficiency, and control. It includes all reagents needed to produce up to 3 mg of purified mRNA in less than half a day.

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



Click or scan the QR code to watch the video presentation

Key **figures**

- Up to **3 mg** of purified mRNA
- From linear DNA to purified mRNA in under **3 hours**
- **1 pot IVT** with co-transcriptional capping
- **1-step** magnetic silica bead-based purification
- Supplied with regular and modified **uridines**

Redesigned Process

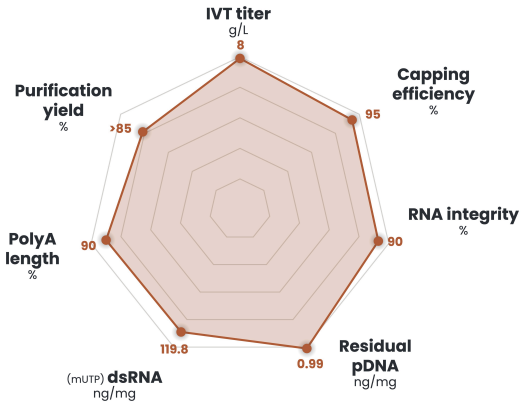
By opting for a single-step bead-based purification method to streamline DSP and reduce process-related losses.

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)



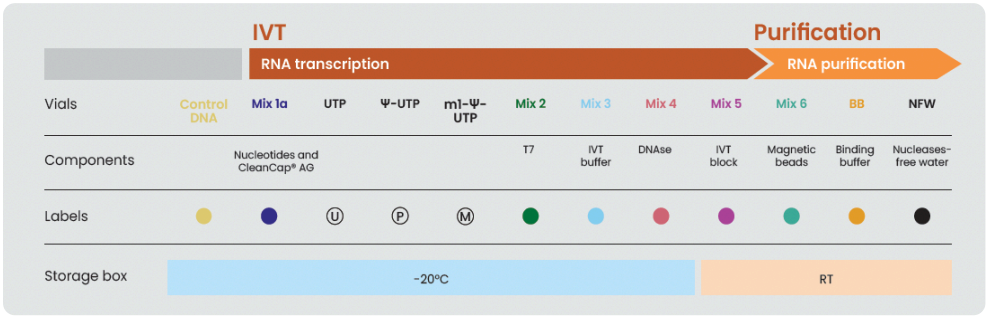
Achievable performances of the Ntensify® process related to process parameters and mRNA quality attributes.

mRNA (Version 4.5)

Tailored for the **Ntensify® process**

Conventional process	IVT	Post transcriptional capping	Oligo DT	Polish	UF/DF	**Simplified process** By reducing the number of steps & required unit operations
Ntensify® process	IVT with co-transcriptional capping		Silica-based magnetic beads			**Accelerated process** By reducing the number of steps & automating the execution

The kit contains 8 mixes, including cap-analog, uridine, pseudo-uridine, and methyl pseudo-uridine. mRNA 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.



Best purified using our **Ntensify® manomag**

The Ntensify® manomag is finely calibrated for optimal retention of the magnetic beads, enhancing purification efficiency and mRNA yield. This ensures consistently high-quality mRNA production.

Click or scan the QR code to watch a video demonstrating the use of the Ntensify® mano and Ntensify® manomag.

Easy-to-use **protocol**

The Ntensify® mano mRNA production kit also contains an easy-to-use protocol, designed for user convenience. All reagent mixes are optimized to work together, enabling high mRNA yield while minimizing process-related impurities. Additionally, we deliver the mixes in compact boxes with clear labeling on each cap, further easing handling operations.



Click or scan the QR code to download the protocol.

Adopted by

CNC – University of Coimbra Portugal used the Ntensify® mano kit and approves its quality!

"We are happy to inform you that the mRNA synthesized with your Ntensify® mano kit was as good as the quality from CDMOs within the industry."

"Using the Ntensify® mano, we achieved low impurity levels and excellent in vivo efficiency with bispecific antibody-encoded mRNA for colorectal cancer treatment in mice."

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	**micro**	**mini**	**midi** *flex*
			
Entry point for RNA construct assessment *In vitro & in vivo* studies	**Drug discovery & pre-clinical phase** Up to 96 constructs	**Drug discovery & pre-clinical phase** Up to 48 constructs	**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 – 8 g
saRNA capacity per batch (purified naked saRNA)			
320 µg – 2.5 mg	640 µg – 128 mg	10 mg – 123 mg	0.128 g – 8 g
Level of automation & run duration			
Manual in 4 hours	From 4 to 6 hours	Automated in under 1 day	