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® midi *flex*

Quantoom Biosciences

(sa)mRNA production and purification system for clinical trials & commercial manufacturing

The **Ntensify® midi flex** is a GMP compliant RNA production and purification system introducing a novel approach to mRNA and saRNA bioprocessing. Both steps are automated in a single equipment to enable scalable production up to 8g per batch.

The equipement performs the **Ntensify® proces** for cost-effective production of drug substance mRNA and saRNA, with a high-quality profile while minimizing impurities.



Click or scan the QR code to watch the video presentation

Key **figures**

mRNA & saRNA	Up to 1 L/batch	**GMP** compliant	**6 hour** production run

Redesigned Process

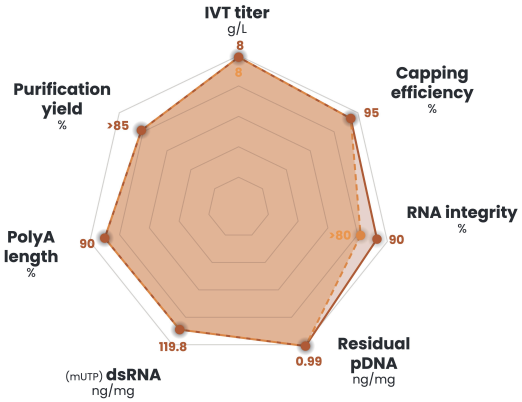
By opting for a single-step bead-based purification method to streamline DSP and reduce process-related losses.

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 (sa)mRNA quality attributes.

mRNA (Version 4.5) saRNA (Version 6.3)

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

Installation **timelines**

Factory Acceptance Testing	Unpacking and installation	Site Acceptance Testing	Support for the IQ/OQ	First run support
Mandatory	Mandatory	Mandatory	Optional	Optional
10 days At Quantoom	3 days At your site	7 days At your site	3 days At your site	3 days At your site

The timelines provided are average estimates and will be adjusted in accordance with the customer at the time of purchase order confirmation.

Main **specifications**

	Volume	mRNA		saRNA	
Minimum per batch	20 mL	100 mg	5K doses*	128 mg	25K doses*
Maximum per batch	1L	8 g	200K doses*	8 g	1M doses*
Batchs per year		208		208	

* Calculated dose: 20 µg for mRNA and 5 µg for saRNA

Support **packages**

Ensure peace of mind with our after-sales offering!

- Direct support line
- Preventive maintenance
- Repair maintenance
- Discounted spare parts
- Additional training - *Optional*
- On-site field application advisory and run support - *Optional*

Training **packages**

Classroom teaching

Understand the necessary details of the manufacturing methods operated by Quantoom's technologies.

Hands on teaching

Get acquainted with Quantoom's Technologies and become fully autonomous.

Quantoom Biosciences ACADEMY

Mixes of **reagents**

A single kit containing all the necessary mixes of reagents, to synthetize and purify either 1 or 5 grams of drug substance mRNA.

Supplied ready-to-use with the following certificates:

- CoA
- SDS
- TSE BSE
- Endotoxins*
- RNAse
- Bioburden*
- AOF

* Only for GMP batch



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	