Count on a partner who knows the way

Accelerate the development and manufacturing of mRNA vaccines and therapeutics

Pirkko Muhonen

Vertical Marketing Manager – mRNA production
Thermo Fisher Scientific

The world leader in serving science
Our leading scientific products, services and workflow solutions

The world leader in serving science

- Thermo Scientific
- Applied Biosystems
- Invitrogen
- Fisher Scientific
- Unity Lab Services
- Patheon
- PPD

Analytical precision and diagnostics excellence
Inspiring meaningful genetic analysis
Accelerating discovery research
One-stop access for scientific products
Instrument and enterprise services
Pharma services
Drug development and clinical trials
mRNA vaccine and therapeutic development workflow

DNA template preparation
- Target design and plasmid production

mRNA synthesis
- Plasmid purification and linearization
- mRNA synthesis and purification
- Analytics
- Formulation, fill, and finish

Downstream processing

Clinical Trial
- Clinical trial execution

Commercial
- Commercialization and Production

Our products, services, and experience support the entire workflow – Where can we accelerate your pipeline?
Thermo Fisher Scientific mRNA production support
From early stage process development to commercial manufacturing

- DNA template preparation
- mRNA synthesis
- Downstream processing
- Clinical Trial
- Commercial

✓ Proven products and flexible solutions
✓ Scientific and technical knowledge sharing
✓ Right product in a right process
✓ Subject matter expert support on every step
Thermo Fisher Scientific mRNA production Services

Opportunity to outsource the whole or part of the process:

- DNA template preparation
- mRNA synthesis
- Downstream processing
- Clinical Trial
- Commercial

Service projects across the full mRNA workflow managed by dedicated team

GeneArt™ Gene Synthesis services

TheraPure™ customization services

Formulation, fill and finish services

Clinical trial services

GMP plasmid DNA development and production services

mRNA Drug development and production service

Process chemicals services

Proprietary & Confidential
We give value beyond products
Partner with us to enable your mRNA production process

Knowledge culture experiences
Webinars, seminars and workshops
• Tailored seminars delivered by Subject Matter Experts (SMEs) to meet your needs and to bridge knowledge gaps

Technical consultancy
By experienced professionals
• Utilize Technical Collaboration Initiatives and on-site Process reviews for process development and productivity improvement

Value of the partnership
Support and services
• Global Health Equity Program
• Patheon Pharma Services Group
• PPD Clinical Services Group

Deep expertise, proven products and services across all areas of mRNA vaccine development timelines
Come to meet the leaders in serving science

Pirkko Muhonen
Marketing Manager - mRNA workflow

Matthew Clayton
Business Account Manager

Barend J.v.Vuuren
Emerging Market Manager

Thermo Fisher Scientific – help us to help you
Appendix
Experience in action: Proven clinical expertise in mRNA platform technology

mRNA Trial Experience

- 61+ mRNA Studies (including vaccines)
  - Early experience with mRNA technology
  - Cross functional solutions
  - Regulatory knowledge and expertise

- 49 mRNA Vaccine Studies
  - Supported trials for Emergency Use Approval and full licensure
  - Multiple sponsor platform experience
  - Cross-therapeutic and indication vaccines & therapeutics

- 117,000 subjects across 4 regions
  - Over 117,000 contracted subjects and 3,090 sites
  - All regions
  - Phase I-III
  - Including Mega-Trial experience (>30,000)

Experience across all areas of mRNA vaccine development to achieve aggressive timelines
mRNA manufacturing Capability | Monza, Italy

**cGMP manufacturing**
- 10,800 ft² dedicated cGMP platform
- Clinical to Commercial
- 4 Process Trains, 10g to 100g mRNA/batch scale
- 2 Lipid Nano Particle formulation areas
- In-house storage and buffer area

**QC and analytical**
- 1500 ft² of QC labs
- Standard analytical offering for 24, in-process testing, and release
- cGMP method transfers, validations, and stability analytical capabilities in continuous expansion, with wide possibilities to adapt to customer needs

**End to end approach**
- Integrated supply chain for raw materials, SUS, equipment
- Global network of expertise
- From starting material to vial in house capability (11 filling lines)
- Storage in temperature-controlled GMP warehousing