

one stop shop

for mRNA formulations critical raw materials

We provide all the components required for mRNA formulations

mRNA technology has the power to revolutionize how diseases are treated. The quality of raw materials used in a mRNA formulation have a dramatic effect on its reproducibility, stability, and performance. We are highly specialized in manufacturing synthetic lipids and mRNA for pharmaceutical applications. Our lipids can be bought off-the-shelf or custom manufactured. For mRNA manufacturing, our unique workflow leads to highly reproducible batches and mRNA with superior activity.

Our SAFC® portfolio includes CDMO services and all the raw materials required for mRNA lipid nanoparticle formulation development.

Cationic / Ionizable lipids

- Encapsulation of API
- Release in cell

Cholesterol

- Structural support
- Rigidity

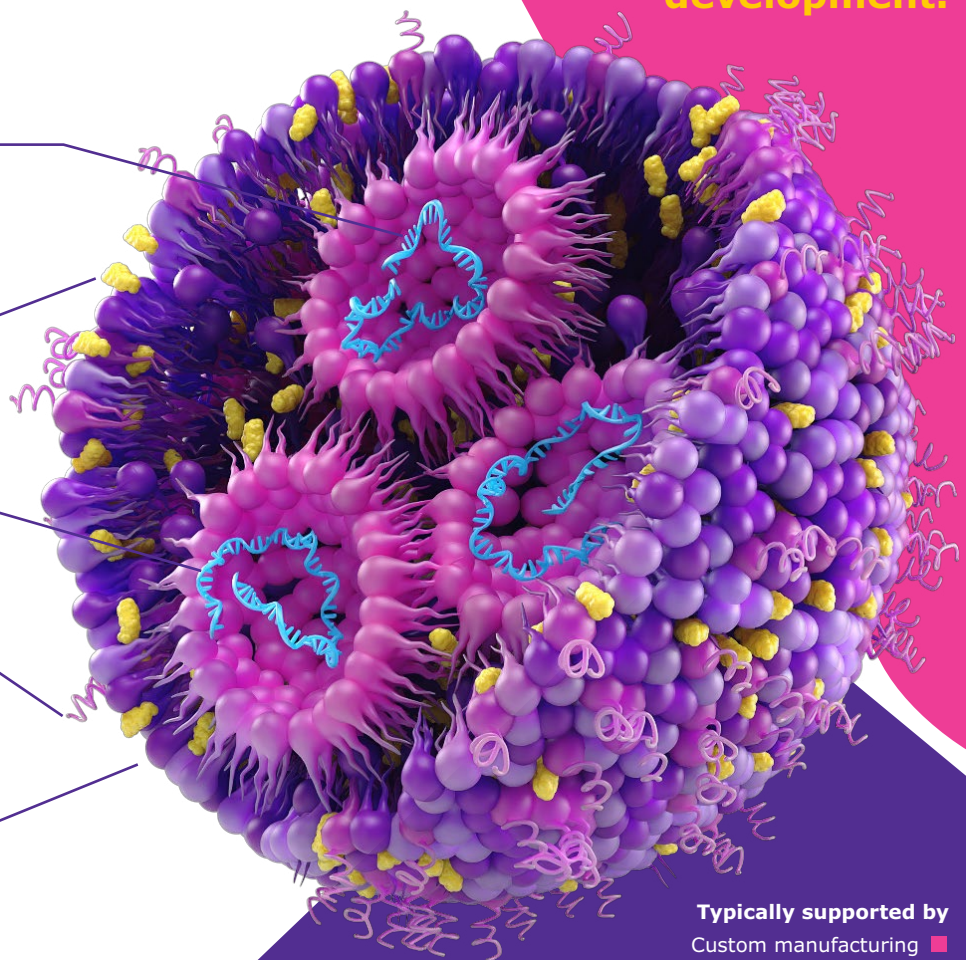
mRNA

PEG lipids

- Higher stability
- Longer circulation

Helper lipids

- Structural support
- Several in portfolio



Typically supported by
Custom manufacturing ■
Portfolio ■

Key advantages of our offering

mRNA

- Production of fully customizable sequences up to 13000 nucleotides
- A significantly lower requirement (~10,000x) for plasmid DNA compared to standard mRNA manufacturing processes
- Highly reproducible process yielding mRNA with a homogeneous poly A tail and high performing product

Lipids

- Consistently high product quality from grams to tons
- Strong expertise in lipids analytics
- GMP manufacturing guided by ICH Q7

Curious?

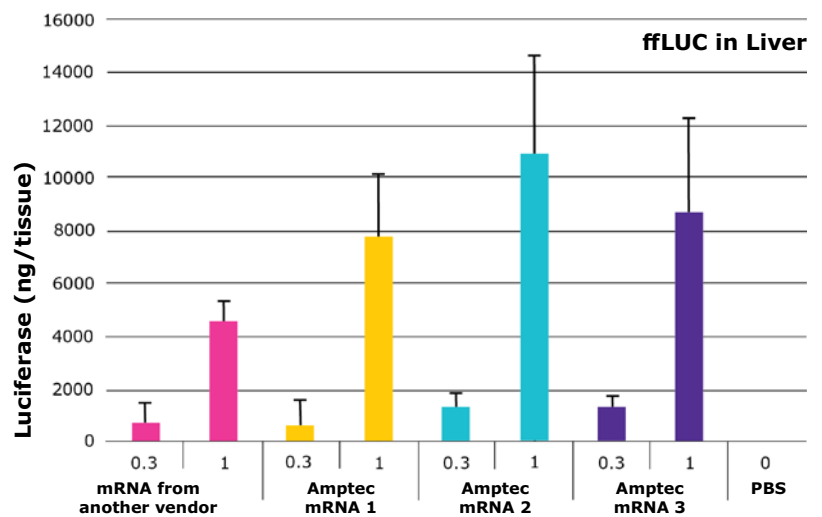
Please contact us to find out more about the alternative mRNA solutions we provide.
MerckMillipore.com/contactPS

Use case showing superior mRNA activity

Customer mRNA Evaluation

- AmpTec Batches showed statistically equivalent in vivo activities
- 2x more active than current industry standard
- Equivalent to the most active historical commercial batch
- Lower plasma cytokine levels at 4h compared to standard benchmark

Luciferase mRNA delivery: In vivo results



Lipids portfolio & services

We offer a broad lipids portfolio and extensive custom manufacturing services. For more information please visit sigmaaldrich.com/synthetic-lipids

To place an order or receive technical assistance in Europe, please call Customer Service:
France: 0825 045 645 Spain: 901 516 645 Option 1
Germany: 069 86798021 Switzerland: 0848 645 645
Italy: 848 845 645 United Kingdom: 0870 900 4645

For other countries across Europe, please call: +44 (0) 115 943 0840
Or visit: MerckMillipore.com/offices
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