

# 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?

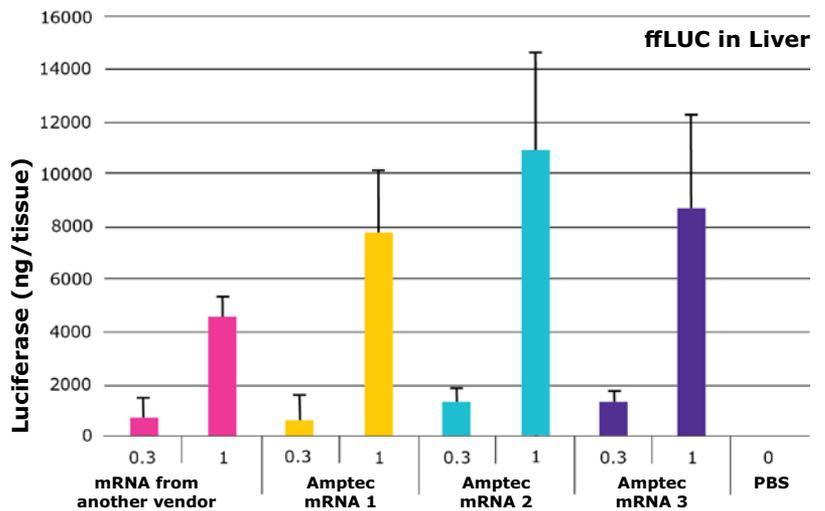
Please contact us to find out more about the alternative mRNA solutions we provide.  
[EMDMillipore.com/contactPS](https://EMDMillipore.com/contactPS)

## 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](https://sigmaaldrich.com/synthetic-lipids)

To place an order or receive technical assistance in the U.S. and Canada, call toll-free 1-800-645-5476  
For other countries across Europe and the world, please visit: [EMDMillipore.com/offices](https://EMDMillipore.com/offices)  
For Technical Service, please visit: [EMDMillipore.com/techservice](https://EMDMillipore.com/techservice)

MilliporeSigma  
290 Concord Road  
Billerica, MA 01821

[EMDMillipore.com](https://EMDMillipore.com)

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