Avanti Research
A CRODA BRAND

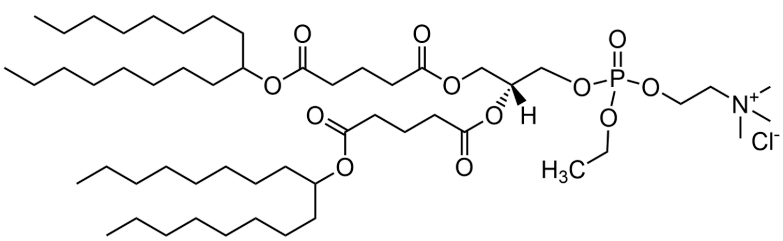
APL-719

Product number A89719C
Legacy code: 890719

APL-719 is an immunostimulatory cationic lipid designed to activate innate immune pathways. Unlike general-purpose lipids, APL-719 is purpose-built to transfect macrophages and act as a potent self-adjuvant in RNA vaccine platforms. When formulated strategically with DOPE as a helper lipid, LNPs utilizing APL-719 demonstrate superior transfection in macrophage models compared to standard industry benchmarks. Furthermore, it functions as a powerful immunomodulator, demonstrating strong IL-1β, IL-6, and TNF-α induction. APL-719 provides a highly targeted, immunostimulatory solution for next-generation therapeutics that require a built-in mechanism for immune system activation.

Key product features include:

- Strong innate immune activation profile
- TNF-α levels comparable to CAF01 in monocytes/DCs
- Strongest inducer of IL-1β and IL-6 among tested LNP formulations
- Ideal for Th1-biased or intracellular pathogen vaccines
- Highly differentiated from benchmarks in cytokine signaling
- Designed as a lower-toxicity alternative for applications where traditional cationic lipids such as DOTAP are commonly used



Product information

Physical and Chemical Properties	
CAS Number[1]	3056014-15-1
Molecular Weight	1026.85
Purity and Material Grade	>99%, Research-Use-Only, not intended for use in humans
Storage Temperature	-20 °C, not light sensitive, not hygroscopic
Application	Therapeutic cancer vaccines, Vaccines requiring strong innate activation (Th1), Adjuvant-like LNP platform applications

[1] CAS is a registered trademark of the American Chemical Society

05/26 CPDS084v1 EN

Avanti Research
A CRODA BRAND

APL-719

Product number A89719C
Legacy Code: 890719

Figure 1
Common Formulation Composition (mol %)

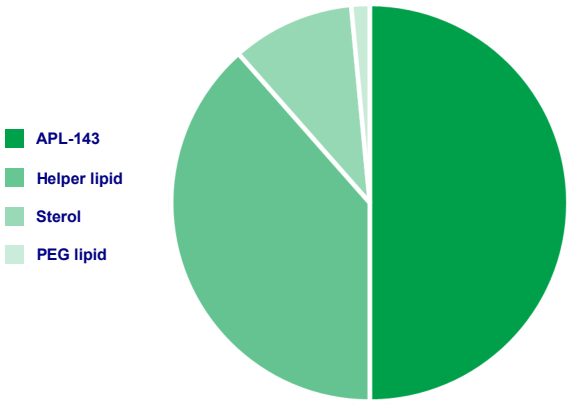


Figure 2
Macrophage Transfection Efficiency

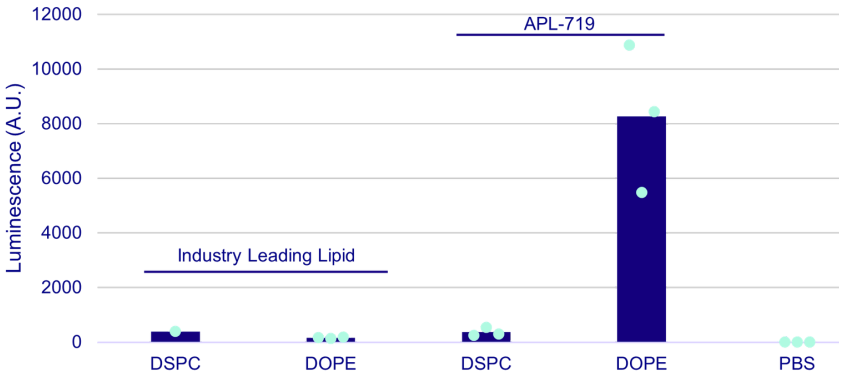


Figure 3
IL6 Induction

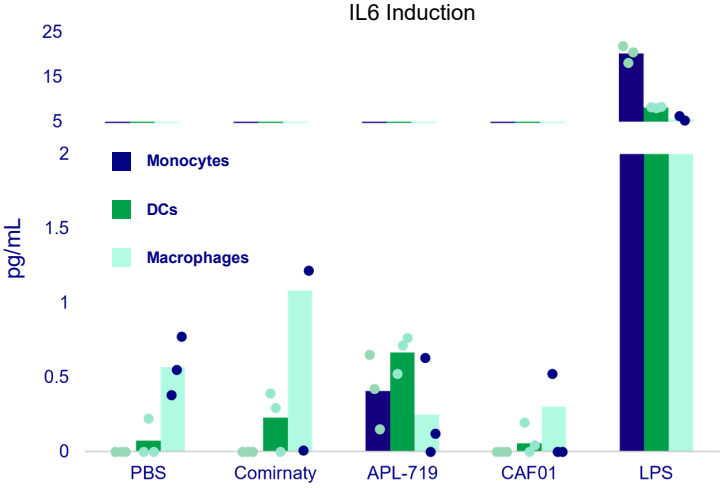


Figure 4
TNFα production

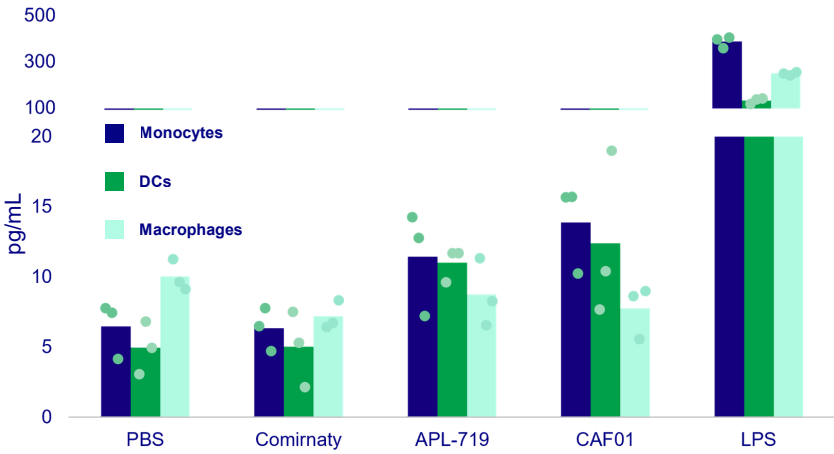


Table 1*

Physicochemical Attributes	
Size	~130 nm
Polydispersity	< 0.2
Zeta potential	pH 7.5 = 21 pH 5.5 = 26
Encapsulation Efficiency	> 99%

*All formulations prepared with ionizable lipid, DSPC, Cholesterol and DMG-PEG (50:10:38.5:1.5)

Did you know that Avanti Research™ also offers formulations services?

Not sure how to formulate with APL-719?

Want to perform feasibility studies without equipment investment?

Our Formulations experts are ready to help you translate your product ideas into reality. We offer support and guidance from initial concept to full-scale production!

05/26 CPDS084v1 EN