Supplemental Materials

Anti-inflammatory Therapy for Temporomandibular Joint Osteoarthritis Using mRNA Medicine Encoding Interleukin-1 Receptor Antagonist

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Supplemental Figure S1

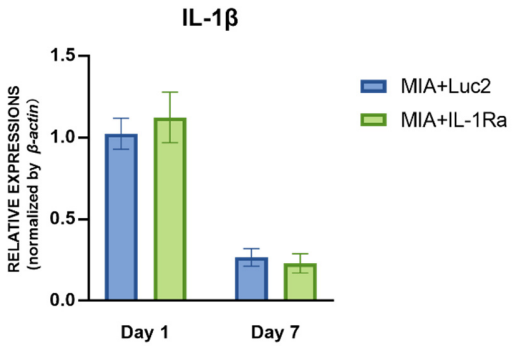

Figure S1. The expression levels of Interleukin-1β (IL-1β) on the 1st day and 7th day after the mRNA treatment. β-actin expression was used for normalization. Animal number = 6/group.

Table S1. Comparison of physicochemical properties between lipid nanoparticles and polyplex nanomicelles for loading mRNA.

	Lipid Nanoparticles-mRNA	Polyplex Nanomicelles
Components	Cationic/ionizable lipids and helper lipids such as phospholipids, cholesterol, or polyethylene glycol (PEG)-functionalized lipids (PEG-lipids) [15, 16]	Block copolymers composed of PEG and cationic polyamino acid [3-5]
Structure	A core-sell structure with mRNA encapsulated in the core in general but highly variable in structure [19-20]	A core-shell structure surrounded by dense PEG palisade with mRNA encapsulated in the core [3-5]
Assembling	Self-assembled mainly driven by hydrophobic interactions and guided by electrostatic interactions [18]	Self-assembled by electrostatic interactions [3-5]
Size	Changeable based on applications and components [18, 21]	Regulated between 50-100 nm [6]
Administration route	Applicable for various routes e.g., intravenous (i.v.) and local administration.	Various Local administration routes [9-15] and hydrodynamic intravenous injection [8]
Biodistribution after i.v. administration	Accumulations in the liver and lymph nodes [22, 23]	-
Immune response after administration	Considerable immune responses, which could work as adjuvant for vaccination [1, 2]	Less or no immune response [6, 7, 9, 14]

References for Table S1

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