



## CERTIFICATE OF ANALYSIS

Product Description: mRNA-1273 Lipid Nanoparticle Moderna Part #: 50075  
Manufacturer Name: Moderna Container/Closure: (b) (4)  
Manufacturer Lot: 5007520013  
Moderna Lot Number: 5007520013 Specification: SPC-1213  
Date of Manufacture: 27Nov2020 Expiry Date: 25Feb2021

| Product Attribute        | Method   | Parameter                 | Specification | Result |
|--------------------------|----------|---------------------------|---------------|--------|
| Appearance               | SOP-0278 | Appearance - Color        | (b) (4)       |        |
|                          |          | Appearance - Particulates |               |        |
| Identity                 | SOP-1032 | Identity                  |               |        |
| Concentration            | SOP-0999 | Concentration             |               |        |
| Purity                   | SOP-0996 | Purity                    |               |        |
|                          |          | % IG1                     |               |        |
|                          |          | % IG2                     |               |        |
|                          |          | % IG3                     |               |        |
|                          |          | % Total Impurities        |               |        |
| % RNA Encapsulation      | SOP-1000 | % Encapsulation           |               |        |
| Dynamic Light Scattering | SOP-0998 | Particle Size             |               |        |
|                          |          | Polydispersity            |               |        |
| Lipid Identification     | SOP-1001 | SM102                     |               |        |
|                          |          | Cholesterol               |               |        |
|                          |          | DSPC                      |               |        |
|                          |          | PEG-DMG                   |               |        |

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Date of Manufacture: 27Nov2020 Expiry Date: 25Feb2021

| Product Attribute    | Method   | Parameter            | Specification | Result |
|----------------------|----------|----------------------|---------------|--------|
| Lipid Content        |          | SM102                | (b) (4)       |        |
|                      |          | Cholesterol          |               |        |
|                      |          | DSPC                 |               |        |
|                      |          | PEG-DMG              |               |        |
| Lipid Impurities     |          | % Area 1             |               |        |
|                      |          | % Area 2             |               |        |
|                      |          | % Area 3             |               |        |
|                      |          | % Area 4             |               |        |
|                      |          | RRT 1                |               |        |
|                      |          | RRT 2                |               |        |
|                      |          | RRT 3                |               |        |
|                      |          | RRT 4                |               |        |
|                      |          | % Total Impurities   |               |        |
| pH                   | SOP-0288 | pH                   |               |        |
| Osmolality           | SOP-0279 | Osmolality           |               |        |
| Bacterial Endotoxins | USP <85> | Bacterial Endotoxins |               |        |
| Bioburden            | SOP-0480 | TAMC                 |               |        |
|                      |          | TYMC                 |               |        |

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## CERTIFICATE OF ANALYSIS

|                      |                              |                    |           |
|----------------------|------------------------------|--------------------|-----------|
| Product Description: | mRNA-1273 Lipid Nanoparticle | Moderna Part #:    | 50075     |
| Manufacturer Name:   | Moderna                      | Container/Closure: | (b) (4)   |
| Manufacturer Lot:    | 5007520013                   |                    |           |
| Moderna Lot Number:  | 5007520013                   | Specification:     | SPC-1213  |
| Date of Manufacture: | 27Nov2020                    | Expiry Date:       | 25Feb2021 |

| Product Attribute | Method | Parameter | Specification | Result |
|-------------------|--------|-----------|---------------|--------|
|-------------------|--------|-----------|---------------|--------|

This material meets specification:      Yes

### Revision History:

1.0 - Original

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Document Approvals  
Approved Date: 14 Dec 2020

|                                  |                                                                                                          |
|----------------------------------|----------------------------------------------------------------------------------------------------------|
| Approval<br>Verdict: Approved    | Steven Anderson,<br>(b) (6) @modernatx.com)<br>Quality Control Approval<br>14-Dec-2020 02:06:59 GMT+0000 |
| QA Approval<br>Verdict: Approved | (b) (6)<br>(b) (6) @modernatx.com)<br>Quality Assurance Approval<br>14-Dec-2020 12:30:17 GMT+0000        |