



## ProFoldin

10 Technology Drive, Suite 40, Number 188  
Hudson, MA 01749-2791 USA  
FAX: (508) 845-9258 Tel: (508) 735-2539  
[www.profoldin.com](http://www.profoldin.com)  
[info@profoldin.com](mailto:info@profoldin.com)

# INSTRUCTIONS

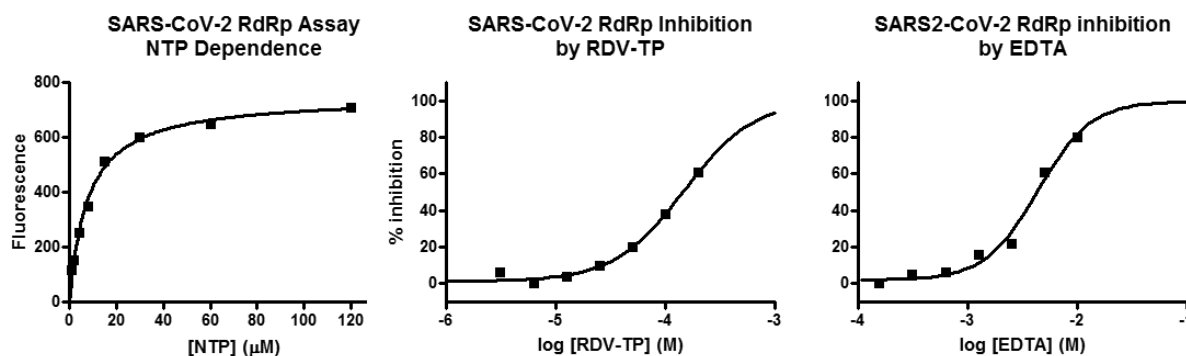
## ProFoldin

# SARS-CoV-2 RNA Polymerase (RdRp) Assay Kits

**SARS-CoV-2 RNA polymerase assay kit-100 (100 assays)**      **Catalog No. S2RPA100K**  
**SARS-CoV-2 RNA polymerase assay kit plus -20 (20 assays)**      **Catalog No. S2RPA020KE**  
**SARS-CoV-2 RNA polymerase assay kit plus -100 (100 assays)**      **Catalog No. S2RPA100KE**

## Introduction

The COVID-19 pandemic is caused by infection of SARS-CoV-2 or severe acute respiratory syndrome coronavirus 2, a positive-sense single-stranded RNA virus. The RNA dependent RNA polymerase (RdRp) is a key drug target for this deadly virus. The SARS-CoV-2 RdRp assay is based on detection of the RNA molecules synthesized by the RNA polymerase in the presence of an RNA template and NTPs. The assay can be performed in a 384-well or 96-well plate format for tests of the enzyme activities of the virus RNA polymerase (SARS-CoV-2 RdRp) and high throughput screening of inhibitors.



The **SARS-CoV-2 RNA polymerase assay kit-100** (Catalog No.S2RPA100K) includes 300 μl of 10 x Buffer, 50 μl of 50 x RNA template, 60 μl of 50 x NTPs (ATP, UTP, GTP, CTP) and 700 μl of 10 x fluorescence dye. It is for 100 assays of SARS-CoV-2 RNA polymerase in a 384-well plate format or 50 assays in a 96-well plate format. The assay kit includes all reagents except the enzyme.

The **SARS-CoV-2 RNA polymerase assay kit plus-20** (Catalog No.S2RPA020KE) includes 75 μl of 10 x Buffer, 10 μl of 50 x RNA template, 12 μl of 50 x NTPs (ATP, UTP, GTP, CTP), 150 μl of 10 x fluorescence dye and 10 μl of 50 x SARS-CoV-2 RdRp. It is for 20 assays of SARS-CoV-2 RNA polymerase in a 384-well plate format or 10 assays in a 96-well plate format.

The **SARS-CoV-2 RNA polymerase assay kit plus-100** (Catalog No.S2RPA100KE) includes 300 μl of 10 x Buffer, 50 μl of 50 x RNA template, 60 μl of 50 x mM NTPs (ATP, UTP, GTP, CTP), 700 μl of 10 x fluorescence dye and 50 μl of 50 x SARS-CoV-2 RdRp. It is for 100 assays of SARS-CoV-2 RNA polymerase in a 384-well plate format or 50 assays in a 96-well plate format.



## ProFoldin

10 Technology Drive, Suite 40, Number 188  
Hudson, MA 01749-2791 USA  
FAX: (508) 845-9258 Tel: (508) 735-2539  
[www.profoldin.com](http://www.profoldin.com)  
[info@profoldin.com](mailto:info@profoldin.com)

# INSTRUCTIONS

---

## ASSAY PROTOCOL

The following assay protocol is based on the 384-well plate assay format (plate type: Matrix 4318 or alike). The reaction volume is 25  $\mu$ l and the final assay volume is 90  $\mu$ l. For 96-well plate assays (plate type: Costar 3915 or alike), the reaction volume is 50  $\mu$ l and the final assay volume is 180  $\mu$ l.

### 1. Reaction:

The total volume of each reaction mixture is 25  $\mu$ l including 21  $\mu$ l of H<sub>2</sub>O, 2.5  $\mu$ l of 10 x Buffer, 0.5  $\mu$ l of 50 x template, 0.5  $\mu$ l of 50 x RNA polymerase and 0.5  $\mu$ l of 50 x NTPs. Incubate the reaction mixture at 34°C for 2 hours.

### 2. Detection:

Dilute the 10x fluorescence dye with water to make the 1 x dye. Mix 65  $\mu$ l of the 1 x dye with 25  $\mu$ l of the reaction mixture. Measure the fluorescence intensity at 535 nm using the excitation wavelength at 485 nm in 10 min.

## Assay Protocol for enzyme inhibition

The assay can be optimized in terms of assay linearity and sensitivity to competitive inhibitors. ProFoldin offers HTS assay development service. For more information, please visit our website at <http://www.profoldin.com/services.html>.

## Related Products

### RNA polymerase assay kits:

|            |   |
|------------|---|
| VRT100K    | Viral (Flavivirus) RNA-dependent RNA Polymerase Assay Kit - 100 |
| RPA100KE   | <i>E. coli</i> RNA Polymerase Assay Kit Plus                    |
| RPA100KSE  | <i>S. aureus</i> RNA Polymerase Assay Kit Plus                  |
| MRPA100KE  | Human Mitochondrial RNA Polymerase Assay Kit Plus               |
| T7RPA100KE | T7 RNA Polymerase Assay Kit Plus                                |
| EGA100KE   | <i>E. coli</i> DNA Primase Assay Kit Plus                       |
| HGA100KE   | <i>H. influenzae</i> DNA Primase Assay Kit Plus                 |
| AGA100KE   | <i>S. aureus</i> DNA Primase Assay Kit Plus                     |
| PGA100KE   | <i>S. pneumoniae</i> DNA Primase Assay Kit Plus                 |
| PNP100KE   | <i>E. coli</i> polynucleotide phosphorylase (PNPase) assay plus |

### DNA polymerase assay kits:

|            |  |
|------------|--|
| DPA100KE   | <i>E. coli</i> DNA Polymerase III Alpha Assay Kit Plus |
| HDP A100KE | Human DNA Polymerase Alpha Assay Kit Plus              |
| DPB100KE   | Human DNA Polymerase Beta Assay Kit Plus               |
| DPG100KE   | Human DNA Polymerase Gamma Assay Kit Plus              |
| HIV100KE   | HIV Reverse Transcriptase Assay Kit Plus               |
| AMV100KE   | AMV Reverse Transcriptase Assay Kit Plus               |
| MLV100KE   | M-MLV Reverse Transcriptase Assay Kit Plus             |

For more information of drug targets and enzyme assays, please visit [www.profoldin.com](http://www.profoldin.com).