

**Datasheet for 100-401-A54****Sars-Cov Nonstructural Protein 13 Antibody****Overview**

|                      |                                                                                |
|----------------------|--------------------------------------------------------------------------------|
| <b>Description:</b>  | Anti-SARS-CoV Nonstructural Protein 13 (nsp13) (RABBIT) Antibody - 100-401-A54 |
| <b>Item No.:</b>     | 100-401-A54                                                                    |
| <b>Size:</b>         | 100 µL                                                                         |
| <b>Applications:</b> | IF, Multiplex                                                                  |
| <b>Reactivity:</b>   | SARS-CoV                                                                       |
| <b>Host Species:</b> | Rabbit                                                                         |

**Product Details**

|                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Background:</b>   | The coronavirus nonstructural protein 13 (nsp13) is one of the SARS-Coronavirus replicase cleaving products encoded by ORF1b. Nsp13 is thought to be part of the viral replication complex, which is associated with intracellular membranes. Nsp13 contains a C-terminal NTPase/Helicase domain and an N-terminal putative zinc-binding motif. Anti-SARS-CoV Nonstructural Protein 13 (nsp13) Antibody is useful for researchers interested in viral research. |
| <b>Synonyms:</b>     | rabbit anti-Sars-Cov Nonstructural Protein 13 Antibody, Replicase polyprotein 1a, pp1a antibody, Growth factor-like peptide                                                                                                                                                                                                                                                                                                                                     |
| <b>Host Species:</b> | Rabbit                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Clonality:</b>    | Polyclonal                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Format:</b>       | Antiserum                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

**Target Details**

|                        |                                                                                                                                                                                                                                            |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Gene Name:</b>      | 1a                                                                                                                                                                                                                                         |
| <b>Reactivity:</b>     | SARS-CoV                                                                                                                                                                                                                                   |
| <b>Immunogen Type:</b> | Conjugated Peptide                                                                                                                                                                                                                         |
| <b>Immunogen:</b>      | This antibody was prepared from whole rabbit serum produced by repeated immunizations with a BSA-coupled synthetic peptide corresponding to the C-terminus (amino acid residues 584-601) of the SARS Coronavirus nonstructural protein 13. |

**Purity/Specificity:** This antibody is directed against SARS-Coronavirus nsp13 protein. The product is neat antiserum. Cross reactivity with homologues from other sources has not been determined.

**Relevant Links:**

- [NCBI - 30124074](#)
- [UniProtKB - P0C6U8](#)
- [GeneID - 1489680](#)

## Application Details

**Suggested Applications:** IF, Multiplex (Based on references)

**Application Note:** This antibody is suitable for use in western blotting, immunofluorescence microscopy and immunoelectron microscopy. Specific conditions for reactivity should be optimized by the end user. Expect a band of approximately 67 kDa in size corresponding to SARS-CoV nsp13 by western blotting in the appropriate cell lysate or extract. For immunofluorescence microscopy, Vero-E6 cells, grown on glass slides, were infected with SARS-CoV-Fr1 strain for 1 h at 37°C. Infection occurred in PBS/DEAE/2% FCS followed by exchange to EMEM/25mMHEPES/2% FCS. Cells were fixed with PBS/3% PFA. After washing fixed cells, antibody incubation was performed in PBS/5% FCS for 30 min.

**Assay Dilutions:** All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.

**IF:** 1:800

**IP:** 1:60

**WB:** 1:1,000

## Formulation

**Physical State:** Liquid (sterile filtered)

**Concentration:** 85 mg/mL by Refractometry

**Buffer:** None

**Preservative:** 0.01% (w/v) Sodium Azide

**Stabilizer:** None

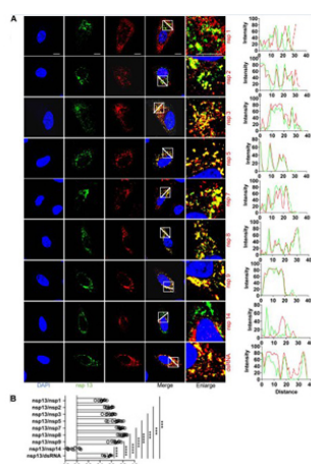
## Shipping & Handling

**Shipping Condition:** Dry Ice

**Storage Condition:** Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.

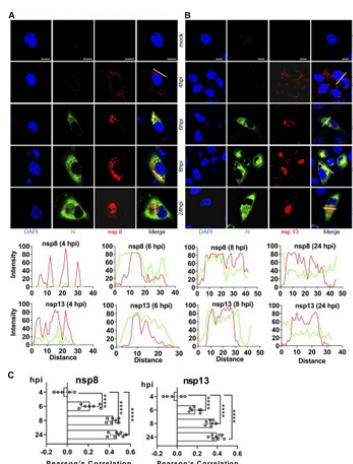
**Expiration:** Expiration date is one (1) year from date of receipt.

## Images



### Immunofluorescence Microscopy

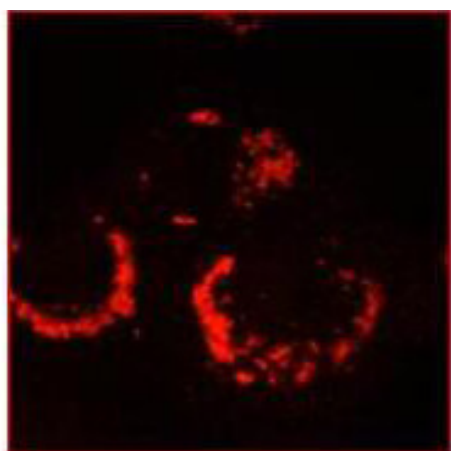
Colocalization of nsp13 with other replicase proteins and dsRNA in SARS-CoV-2-infected cells. (A) A549-ACE2 cells were infected with SARS-CoV-2 (MOI = 2), fixed at 6-h postinfection (hpi), and costained with rabbit anti-SARS nsp13 pAb and appropriate home-made mouse anti-SARS-CoV-2 nsp sera or mouse anti-dsRNA MAb, followed by staining with Alexa Fluor 488-conjugated goat anti-rabbit Ab (green) and Alexa Fluor 555-conjugated goat anti-mouse Ab (red). Cell nuclei were stained with DAPI (blue) and examined by confocal microscopy. Images in the fifth column were obtained at higher magnification to show single-cell details of fluorescence labeling; scale bars represent 10 μm. The intensity distribution describes the colocalization of nsp13 with other replicase proteins for specific fluorescence along the indicated line. (B) Pearson's correlation analysis demonstrated colocalization of nsp13 with other replicase proteins. One-way analysis of variance (ANOVA) was used for multiple comparisons on the colocalization between nsp13 and different nsps in GraphPad Prism 8.4.3 software. \*\*\*\*, P < 0.0001; \*\*\*, P < 0.001. Fig 8. PMID: 35730969



### Immunofluorescence Microscopy

Time course of nsp8 and nsp13 detection. A549-ACE2 cells were mock infected or infected with SARS-CoV-2 (MOI 2), fixed at 2-, 3-, 4-, 6-, 8-, and 24-h postinfection (hpi), and costained with home-made mouse anti-SARS-CoV-2 N protein serum and rabbit anti-SARS nsp8 (A) or nsp13 (B) polyclonal, followed by staining with goat anti-mouse secondary antibody conjugated with Alexa Fluor 488 (green) and goat anti-rabbit secondary antibody conjugated with Alexa Fluor 555 (red). The cell nuclei were stained with DAPI (blue) and examined by confocal microscopy. No specific signal was observed at 2 and 3 hpi (not shown); scale bars represent 10  $\mu$ m. The intensity distribution describes the timing of expression of nsp8 or nsp13 for specific fluorescence along the indicated line. (C) Pearson's correlation was used to analyze changes in nsp8 or nsp13 over time. One-way analysis of variance (ANOVA) was used for multiple comparisons between different times among the nsp8 or nsp13 in GraphPad Prism 8.4.3 software.

\*\*\*\*,  $P < 0.0001$ . Fig 6. PMID: 35730969



### Immunofluorescence Microscopy

Immunofluorescence microscopy using Rockland's anti-SARS-CoV nsp13 antibody at 1:800, 6-h post infection Vero-E6 cells. For detection Cy3 conjugated Goat-anti-Rabbit IgG MX (611-104-122) was used. Personal Communication, Eric Snijder, Leiden University Medical Center, Leiden, Netherlands.

## References

- Shi FS et al. Expression Profile and Localization of SARS-CoV-2 Nonstructural Replicase Proteins in Infected Cells. *Microbiol Spectr.* (2022)
- Ivanov KA. et al. Multiple Enzymatic Activities Associated With Severe Acute Respiratory Syndrome Coronavirus Helicase. *J Virol.* (2004)

## Disclaimer

This product is for research use only and is not intended for therapeutic or diagnostic applications. Please contact a technical service representative for more information. All products of animal origin manufactured by Rockland Immunochemicals are derived from starting materials of North American origin. Collection was performed in United States Department of Agriculture (USDA) inspected facilities and all materials have been inspected and certified to be free of disease and suitable for exportation. All properties listed are typical characteristics and are not specifications. All suggestions and data are offered in good faith but without guarantee as conditions and methods of use of our products are beyond our control. All claims must be made within 30 days following the date of delivery. The prospective user must determine the suitability of our materials before adopting them on a commercial scale. Suggested uses of our products are not recommendations to use our products in violation of any patent or as a license under any patent of Rockland Immunochemicals, Inc. If you require a commercial license to use this material and do not have one, then return this material, unopened to: Rockland Inc., P.O. BOX 5199, Limerick, Pennsylvania, USA.