# SARS-CoV-2 Reporter Virus Particles

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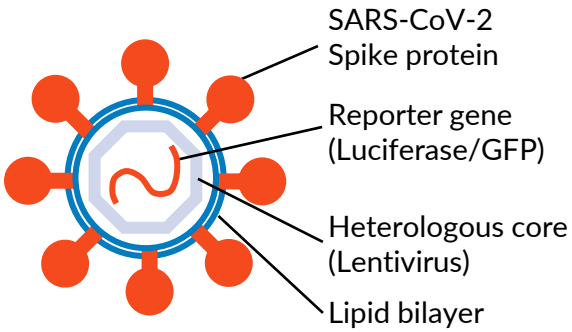
Integral Molecular's SARS-CoV-2 Reporter Virus Particles (RVPs) are replication-incompetent pseudotyped virus particles that enable safe (BSL-2), easy, and high-throughput viral infectivity and neutralization assays using standard detection instrumentation. SARS-CoV-2 RVPs display antigenically correct spike protein on a heterologous virus core and carry a modified genome that expresses a convenient optical reporter gene (GFP or luciferase) within 24 hours of cellular infection.

SARS-CoV-2 RVPs are available as a ready-to-use reagent that provides a safe and efficient alternative to plaque assays, and are produced under quality-controlled conditions as a critical reagent to enable regulatory submissions.

## Advantages of SARS-CoV-2 RVPs

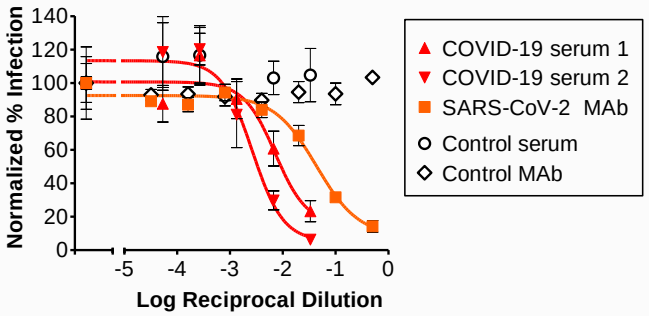
- Safe in a BSL-2 environment
- Quantitative (luciferase) or fluorescent (GFP) read-out
- Compatible with high-throughput plate-based assays
- Quality-controlled production for use as a critical reagent




## Applications of SARS-CoV-2 RVPs

- Antibody neutralization
- Serum screening
- High-throughput assays

### Neutralization of SARS-CoV-2 RVPs




COVID-19 patient sera and a monoclonal antibody neutralize the infectivity of SARS-CoV-2 RVPs in a concentration-dependent fashion. The 10x MAb dilution here represents 10 µg/ml.

| SARS-CoV-2 RVP Variant | Cat. No |
|---|---|
| Wuhan-Hu-1 (wild type) | RVP-701 |
| D614G | RVP-702 |
| Brazilian P1 | RVP-708 |
| UK with E484K | RVP-717 |
| South African 20H/501Y.V2 Δ3 | RVP-724 |

Visit our website for the full listing of emerging RVP variants.
Additional strains/custom variants are available upon request.

## About Us

With two decades of virology experience, Integral Molecular is the industry leader in providing RVPs for applications including antibody R&D and serum screening for vaccine clinical trials.

## Contact Us

Integral Molecular's SARS-CoV-2 RVPs are produced under stringent quality-controlled conditions. Contact us for more information, purchasing, or to receive a free trial sample.

V1v0521

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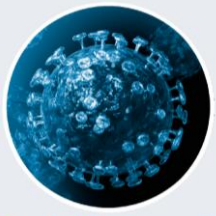
# Integral Molecular's Membrane Protein Solutions

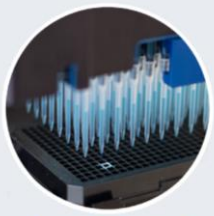
Deep expertise in virology is at the core of Integral Molecular's 20-year history. Our technologies and R&D services enable over 300 companies working in vaccine research and drug discovery, and have been published in over 250 peer-review publications including in *Cell*, *Science*, and *Nature*. Over the past 10 years, scientists at Integral Molecular have been on the forefront of combatting viral epidemics such as Zika, Ebola, and Chikungunya, in addition to working on dengue, HIV, RSV, Hepatitis C, Hepatitis B, Equine Encephalitis, and influenza viruses.


Vaccine Development

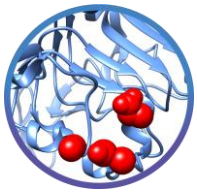

MPS Antibody Discovery

Lipoparticles


Epitope Mapping


Membrane Proteome Array

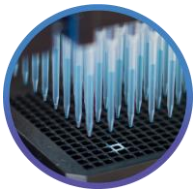
## Shotgun Mutagenesis Epitope Mapping



Detailed epitope mapping using comprehensive alanine scanning across the native protein informs antibody mechanism of action and strengthens intellectual property

- >95% success rate for delivering high-resolution conformational epitopes
- 1,000+ epitopes mapped on viral, secreted, cytoplasmic, and membrane protein targets

## Membrane Proteome Array



The Membrane Proteome Array is used to profile MAb specificity and evaluate off-target safety by utilizing 6,000 human membrane proteins expressed in live cells

- Expression in live human cells and screening in unfixed cell-based assays
- 4-week turn-around, including validation by flow cytometry

## Lipoparticles


Lipoparticles are virus-like particles that concentrate membrane proteins in their native conformation for better immunization, phage panning, and screening

- 10-100x concentrated membrane proteins (50-200 pmol/mg)
- Conformationally correct

## MPS Antibody Discovery

We harness proprietary technologies, including Lipoparticles, DNA immunization, and B-cell cloning, and use divergent species to overcome the challenges of working with membrane proteins and deliver lead MAbs

- >95% success in isolating MAbs against GPCRs, ion channels, transporters, and I-O targets
- Hundreds of diverse and functional (antagonist/agonist) MAbs

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