TECH DATA SHEET

REPORTER VIRUS PARTICLES

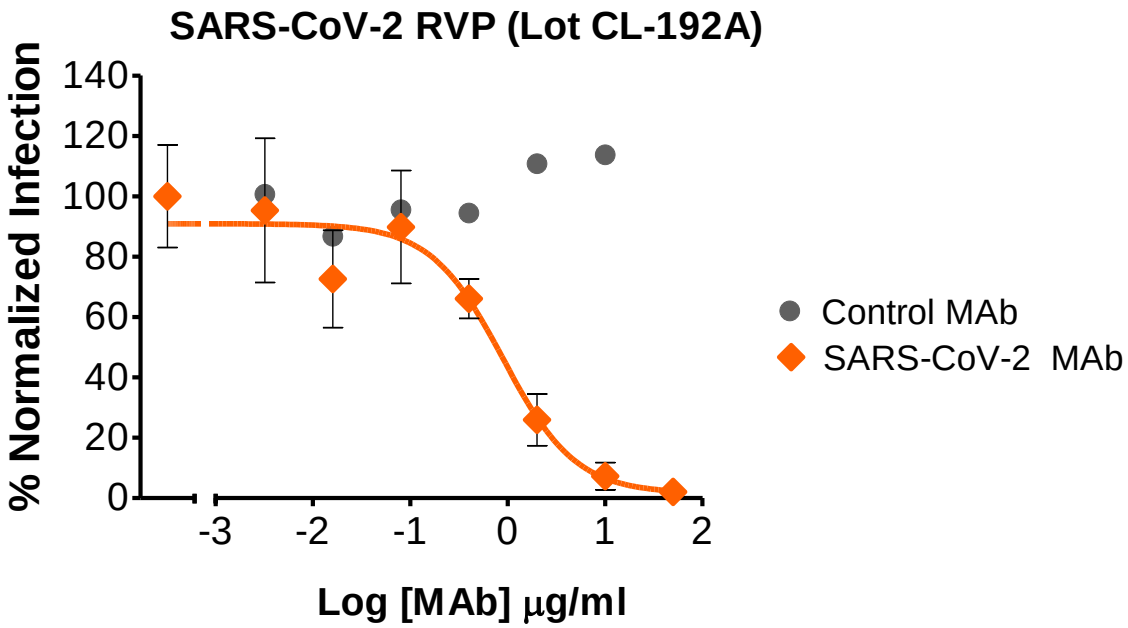
DESCRIPTION	
Product	RVP-727L, SARS-CoV-2 Reporter Virus Particles (RVPs)
Lot	CL-192A
Strain	L452R, E484Q (India)
Reporter	*Renilla* luciferase
Size	1.0 mL/vial
Packaging	20% FBS/DMEM
Recommended Input	20uL per well (96-well plate) using the 293T-ACE2 stable cell line
Mycoplasma Test	Negative
Expiration Date	May 2025

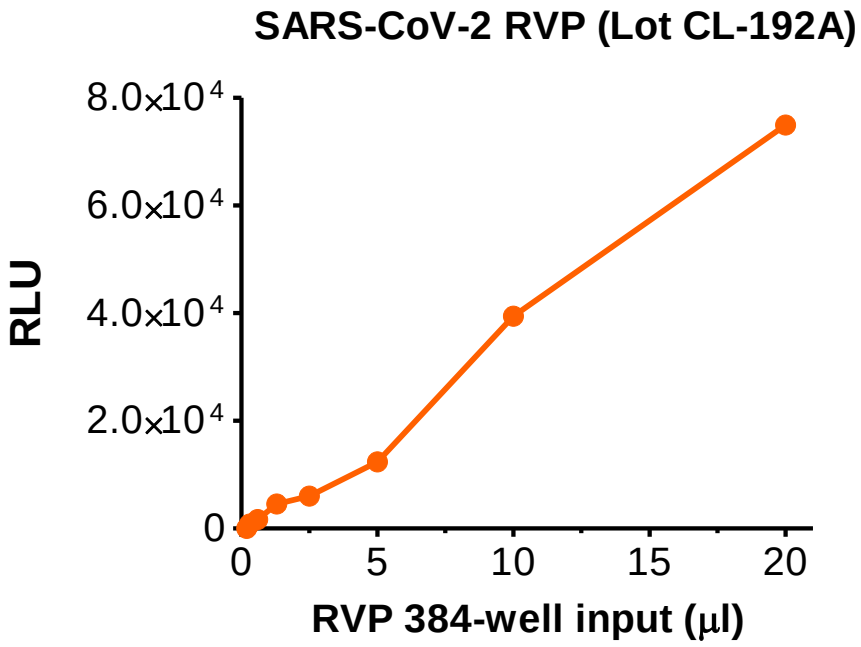
SAFETY & HANDLING	
Shipping	Shipped on dry ice
Stability and Storage	Store at ≤ -80°C

SARS-CoV-2 RVPs are used to test the ability of serum, antibodies, and drugs to neutralize the infectivity of SARS-CoV-2 spike protein. RVPs display antigenically correct spike protein pseudotyped on replication-incompetent virus particles that contain a heterologous lentiviral (HIV) core. RVPs are capable of a single round of infection and carry a genome that expresses either a GFP or luciferase optical reporter gene upon infection. RVPs are produced in HEK-293T cells using three separate plasmids, encoding the spike protein, a lentiviral gag polyprotein, and a reporter gene. RVPs are created using a second-generation lentiviral system with components that are highly unlikely to recombine to produce a fully infectious virus (requiring 3 separate recombination events to do so). However, lentiviruses are capable of genomic integration and RVPs are derived from biological materials so should be handled with caution within a BSL2 or enhanced BSL2 laboratory environment. RVPs are not to be used in humans or in animals raised for food.

Thaw tubes in a 37°C water bath for 3 minutes and place on ice until ready to use. RVPs will appear as a translucent, pink solution. Gently mix prior to use. Excessive vortexing of RVPs should be avoided. Re-freezing of RVPs is not recommended.

NEUTRALIZATION & INFECTIVITY DATA





Infectivity determined in monoclonal ACE2 cell line (Cat# C-HA102). Neutralization utilized 2.5 µl of SARS-CoV-2 RVPs in a 384-well plate. *Renilla* luciferase activity measured using the Promega *Renilla*-Glo luciferase assay system (Promega #E2710). Sample luminescence was read using a Perkin-Elmer Envision plate reader.

SIGNAL TO BACKGROUND AND Z-PRIME		
RVP 384-well Input (µl)	**Signal:Background**	**Z-Prime(0.5-1.0 ideal)**
20	1743	0.80
10	917	0.82
5	288	0.60
2.5	140	0.51
1.25	106	0.23
0.63	39	-0.37
0.31	19	-0.59

Signal to background is calculated using mock infected cells as the negative control value. Data are based on replicates of four wells. Devices used to read luminescence will vary in relative light unit values based on their individual detectors and software, but the signal to background will be comparable across devices.