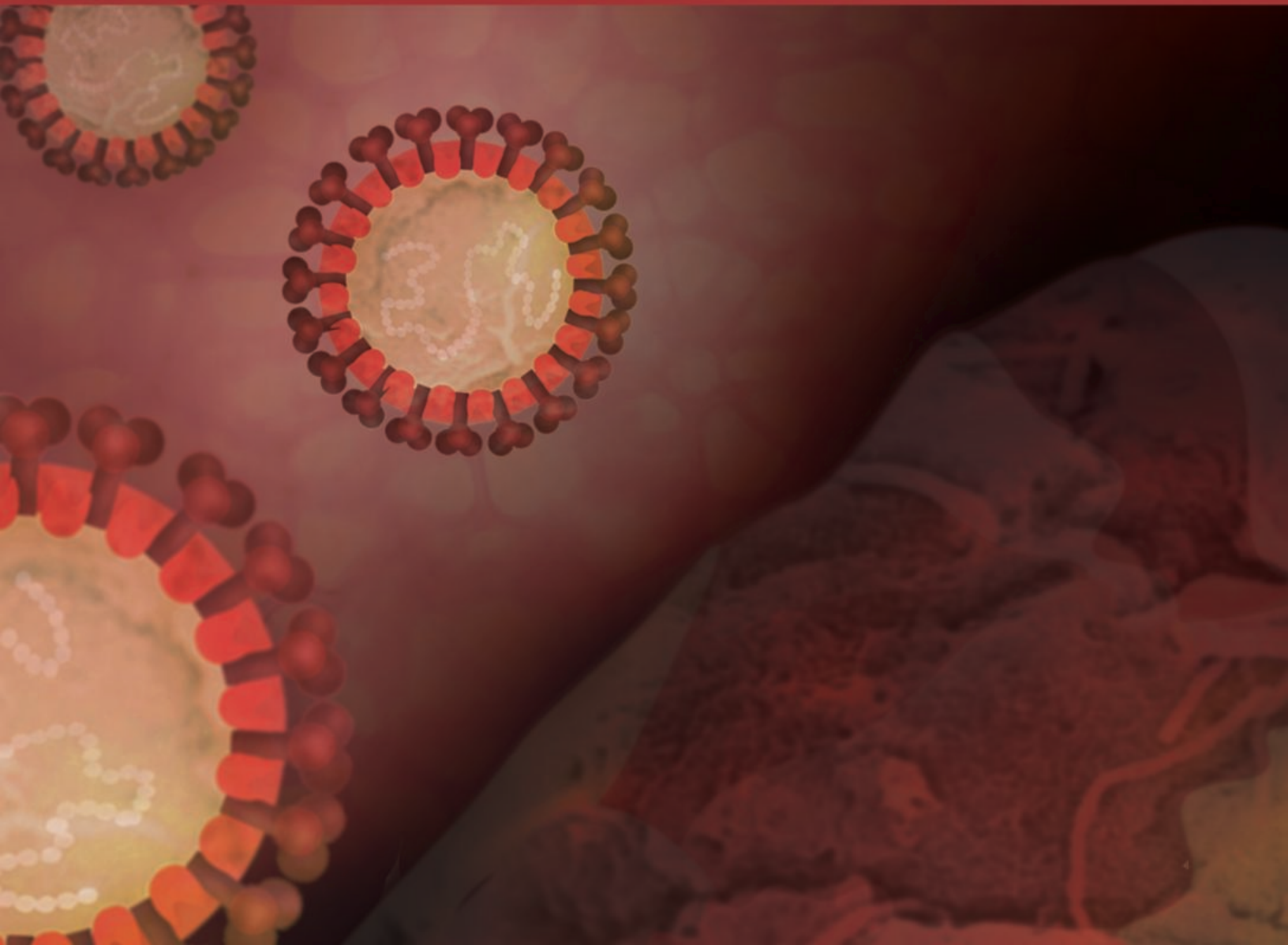


# CORONAVIRUS

Proteins | Kits | Lentiviruses | Antibodies | Custom Services

RESEARCH,  
DRUG DISCOVERY,  
DIAGNOSTICS & VACCINES



# BPS Bioscience Advantages

Scientist Founded, Scientist Driven



## Produced In-house

- Made in the USA at our San Diego, California laboratory
- Get customized, personal support directly from the source



## Broad Portfolio

- Full range of solutions for drug discovery, diagnostics, and vaccine development
- Cell lines, lentiviruses, proteins, screening assay kits, & antibodies
- Products in a variety of related categories including immunotherapy & proteases



## Services Available

- CRISPR, screening & profiling, & custom development
- Custom cell line development services, custom knock-out and knock-in cell lines
- Unique panels of assays for evaluation of lead compounds

# Coronavirus Products

## Tools to Investigate COVID-19

### PROTEINS



SARS-COV-2 | SARS-COV | Human | Monkey

Mutants | EU and Biotin-Labeled | Various Tags |

3CL Protease | ACE2 | Spike (S1, RBD) |  
PLPro | Nucleocapsid | Others

### ASSAY KITS



- Convenient activity assay kits for screening enzyme inhibitors and target molecules impacting SARS-CoV2 pathologic mechanisms
- Validation made simple with multiple detection formats  
Chemiluminescent | Colorimetric | Fluorogenic | TR-FRET

### LENTIVIRUSES



- High transduction efficiency
- Utilize in cell signaling pathway studies
- Enhance neutralizing antibody and small molecule inhibitor screening applications
- Reporter pseudovirions to assay viral entry and fusion

### ANTIBODIES



Binding studies | FACS | ELISA

IgG & IgM unconjugated | Anti-Spike | Others

# Screening & Profiling

## Biochemical Assays

BPS Bioscience has developed innovative assays and screening services for investigating potential COVID-19 antiviral drugs. Identify antibodies or small molecule inhibitors that bind to either viral or target proteins.

- Screening and Profiling Services • Assay Design & Optimization • Validation Studies

### Assay Formats

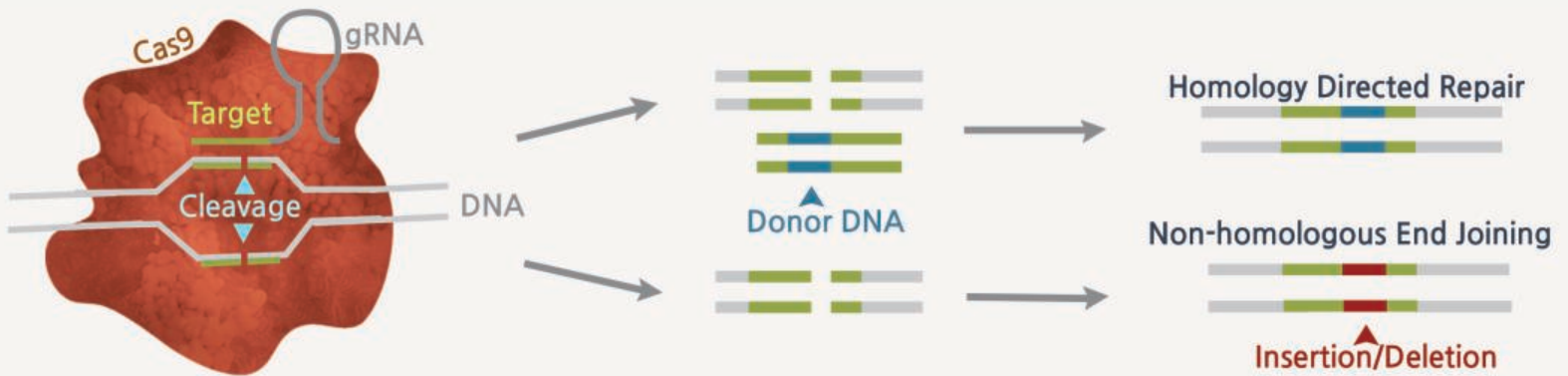
Screening Assay Kit	PROTOCOL				BPS #
ACE2:Spike S1-Biotin (SARS-CoV-2) <i>Chemiluminescent</i>	 ACE2	 SPIKE -Biotin	 STREP -HRP	 HRP Substrate	79945
ACE2: Spike RBD (SARS-CoV-2) <i>Chemiluminescent</i>	 ACE2	 SPIKE	 Anti-Fc -HRP	 HRP Substrate	79936
Spike RBD (SARS-CoV-2) : ACE2 <i>Chemiluminescent</i>	 SPIKE	 ACE2	 Anti-HIS -HRP	 HRP Substrate	79931
Spike S1 (SARS-CoV-2): ACE2 <i>Colorimetric</i>	 SPIKE	 ACE2 -Biotin	 STREP -HRP	 HRP Substrate	79954
Spike S1-Biotin(SARS-CoV-2):ACE2 <i>TR-FRET</i>	 ACE2-EU Dye Labeled Acceptor	 SPIKE -Biotin	 Blocking Compound		79949
ACE2 or 3CL <i>Fluorogenic</i>	 ACE2 or 3CL	 Inhibitor	 Fluorogenic Substrate		79923 79955

# CRISPR-Cas9 & Cell Line Development

## Knock-out or Knock-in Cell Lines

- Introduce a specific point mutation or add a tag to your endogenous gene of interest
- Knock-out your gene(s) of interest for mechanistic or screening studies
- Customized lentivirus can be used to quickly generate knock-down or knock-out cell pools


## Knock-out or Knock-in



## Project Milestones


**1**

**Molecular Biology**  
BPS will synthesize three short guide RNA sequences for knock-out cell lines. BPS can also design the HDR template for knock-in cell lines.




**2**

**CRISPR Transfection**  
Depending on the cell-type, cells can be transfected via electroporation, liposome-based transfection, or viral infection.




**3**

**Limiting Dilution**  
Based upon the results of the initial pool testing, the cell pool will be clonally diluted and the single cell-derived clones will be expanded.




**4**

**Confirmation of Expression**  
The expression level of the gene of interest will be analyzed via Western Blot or FACS.



**5**

**Confirmation**  
Genes showing loss of expression will be analyzed through genomic sequencing. For knock-in mutations, functional validation is available.



# Antibodies, Assay Kits, Proteins, Lentiviruses, Substrates Coronavirus

Antibodies	Catalog#	Size
Anti-Human IgG, Unconjugated Antibody	100736	100 µg 500 µg
Anti-Human IgM, Unconjugated Antibody	100737	100 µg 500 µg
Anti-Spike S1 Monoclonal Antibody (SARS-CoV-2)	100715	25 µg 100 µg

Assay Kits	Catalog#	Size
3CL Protease (SARS-CoV-2) Assay Kit	79955	96 reactions
ACE2 Inhibitor Screening Assay Kit	79923	96 reactions
ACE2: Spike RBD (SARS-CoV-2) Inhibitor Screening Assay Kit	79936	96 reactions
ACE2: Spike S1-Biotin (SARS-CoV-2) Inhibitor Screening Assay Kit	79945	96 reactions
Spike RBD (SARS-CoV-2) : ACE2 Inhibitor Screening Assay Kit	79931	96 reactions
Spike S1 (SARS-CoV-2): ACE2 Inhibitor Screening Colorimetric Assay Kit	79954	96 reactions
Spike S1-Biotin (SARS-CoV-2): ACE2 TR-FRET Assay Kit	79949	384 reactions

Proteins	Catalog#	Size
14-3-3 theta Protein, His-tag (Human)	79038	20 µg
3CL Protease (Mpro) (SARS-CoV-2)	100755	100 µg
3CL Protease (Mpro), MBP-tag (SARS-CoV-2)	100707	100 µg 1 mg
ACE2, Fc Fusion (Monkey)	100701	50 µg 1 mg
ACE2, His-Avi-Tag, Biotin-labeled HiP™	100665	20 µg 50 µg
ACE2, His-Tag	11003	20 µg 100 µg
ACE2, His-tag (Monkey)	100702	50 µg 1 mg
Cas12, GST-tag (Lachnospiraceae)	100740	20 µg 50 µg
Cas12, His-tag (Lachnospiraceae)	100741	20 µg 50 µg

Proteins	Catalog#	Size
COVID-19 Nucleocapsid (SARS-CoV-2)	100700	100 µg 500 µg
PLP2, His-tag (SARS-CoV)	81090	25 µg
PLPro, His-tag (SARS-CoV)	81091	25 µg
PLPro, His-tag (SARS-CoV-2)	100735	20 µg 50 µg
Spike S1 (13-665), Fc Fusion, Avi-tag (SARS-CoV-2)	100678	100 µg 1 mg
Spike S1 (13-665), Fc fusion, Avi-tag, Biotin-Labeled (SARS-CoV-2)	100679	25 µg 50 µg
Spike S1 (16-685), Avi-His-tag (SARS-CoV-2)	100730	100 µg 1 mg
Spike S1 (16-685), Fc fusion (SARS-CoV-2)	100688	20 µg 50 µg
Spike S1 (16-685), Fc Fusion, Avi-tag (SARS-CoV-2)	100719	100 µg 1 mg
Spike S1 (16-685), Fc Fusion, Avi-tag, Biotin-labeled (SARS-CoV-2)	100720	25 µg 50 µg
Spike S1 RBD, Avi-His-tag (SARS-CoV-2)	100696	100 µg 1 mg
Spike S1 RBD, Fc fusion (SARS-CoV-2)	100699	50 µg 100 µg
Spike S1 RBD, Fc-Fusion, Avi-Tag (SARS-CoV-2)	100698	100 µg 1 mg
Spike S1 RBD, His-tag (SARS-CoV-2)	100687	50 µg 100 µg

Lentiviruses	Catalog#	Size
ACE2 Lentivirus	79944	500 µl x 2
Bald Lentiviral Pseudovirion (Luciferase Reporter)	79943	500 µl x 2
Spike (SARS-CoV-2) Pseudotyped Lentivirus (Luciferase Reporter)	79942	500 µl x 2

Substrates	Catalog#	Size
3CL Protease Substrate	79952	1 mg 10 mg