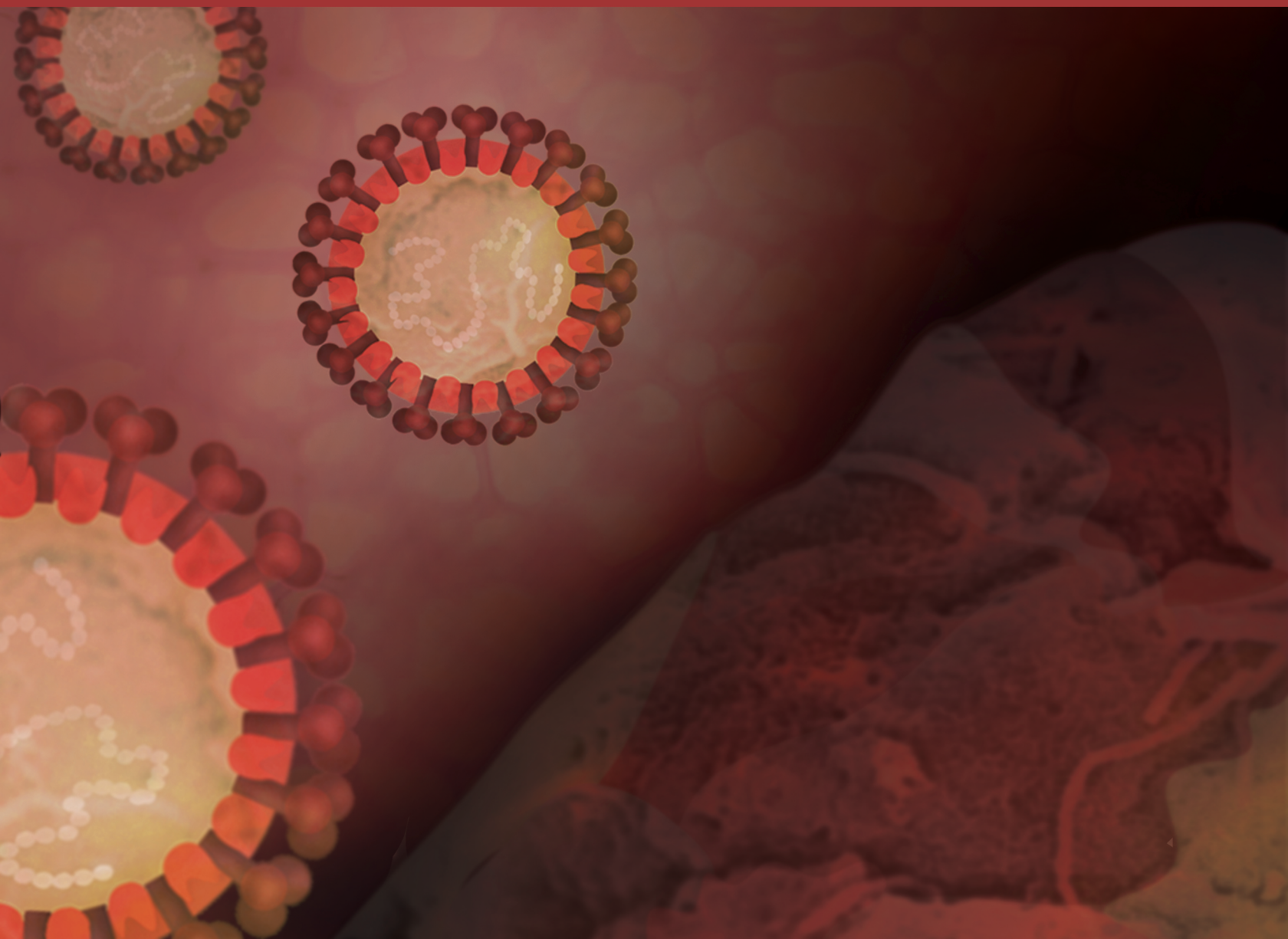
BPS Bioscience

CORONAVIRUS

Proteins | Kits | Lentiviruses | Antibodies I 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 I SARS-COV | Human | Monkey

Mutants I EU and Biotin-Labeled I Various Tags I

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

CELL LINES LENTIVIRUSES

- Utilize cell lines for binding assays, flow cytometry, and for screening antibodies.
- Multiple host cell line options: HeLa, HEK293, and CHO
- Lentiviruses have high transduction efficiency
- Reporter pseudovirions to assay viral entry and fusion

ANTIBODIES

Binding studies I FACS I ELISA

IgG & IgM unconjugated I Anti-Spike I Others

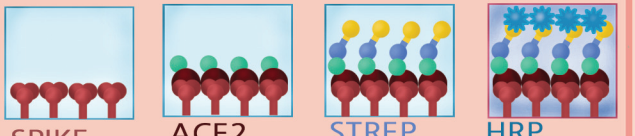
Screening & Profiling

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

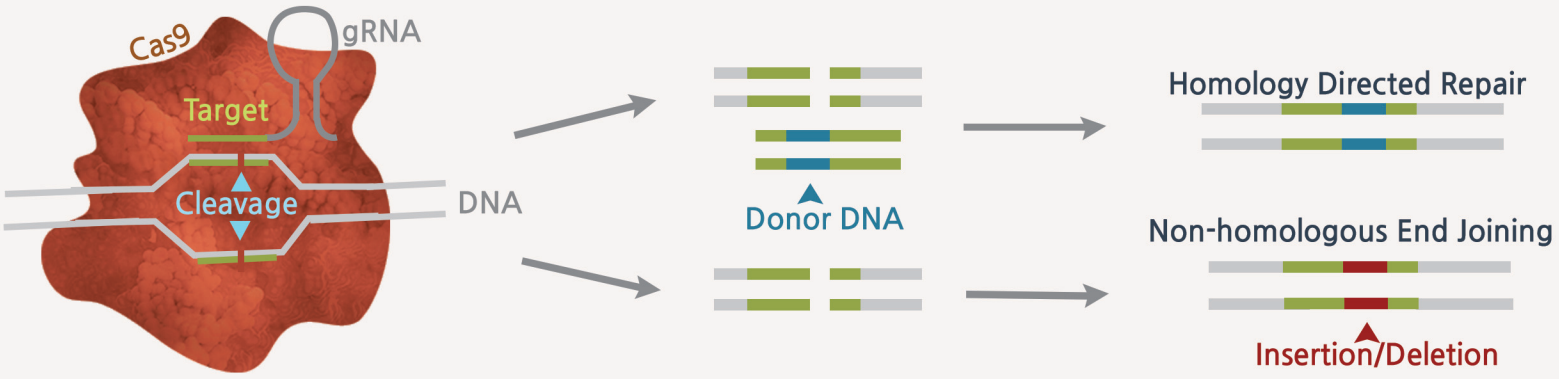
Screening Assay Kit	PROTOCOL	BPS #
ACE2:Spike S1-Biotin (SARS-CoV-2) *Chemiluminescent*		79945
ACE2: Spike RBD (SARS-CoV-2) *Chemiluminescent*		79936
Spike RBD (SARS-CoV-2) : ACE2 *Chemiluminescent*		79931
Spike S1 (SARS-CoV-2): ACE2 *Colorimetric*		79954
Spike S1-Biotin(SARS-CoV-2):ACE2 *TR-FRET*		79949
ACE2 *or* 3CL *Fluorogenic*		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, Cell Lines, Lentiviruses, Proteins
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
Spike S1 Neutralizing Antibody (SARS-CoV-2) (Clone: 414-1)	100793	100 µg
Spike S1 Neutralizing Antibody (SARS-CoV-2) (Clone: 414-2)	100792	100 µg
Spike S1 Neutralizing Antibody (VHH), Fc-fusion (IgG1), Avi-Tag (SARS-CoV)	100784	100 µg

Assay Kits	Catalog#	Size
3CL Protease (MERS-CoV) Assay Buffer	78022	25 ml
3CL Protease (SARS-CoV) Assay Kit	78015	96 reactions
3CL Protease (SARS-CoV-2) Assay Kit	79955	96 reactions 384 reactions
3CL Protease Assay Buffer	79956	25 ml
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
ACE2:Spike RBD (SARS-CoV-2) Inhibitor Screening Colorimetric Assay Kit	78031	96 reactions
Cathepsin L Inhibitor Screening Assay Kit	79591	96 reactions
IL-6:IL-6R Inhibitor Screening Assay Kit	78027	96 reactions
Papain-like Protease (SARS-CoV-2) Assay Kit: Deubiquitinase Activity	79996	96 reactions
Papain-like Protease (SARS-CoV-2) Assay Kit: Protease Activity	79995	96 reactions
SARS-CoV-2 IgG Detection Kit (Colorimetric Anti-Spike RBD IgG detection)	79985	96 reactions
SARS-CoV-2 IgG Detection Kit (Colorimetric Trimer Anti-Spike IgG detection)	79975	96 reactions
SARS-CoV-2 Spike Trimer (S1+S2):ACE2 Inhibitor Screening Colorimetric Assay Kit	79999	96 reactions
Spike RBD (SARS-CoV-2) : ACE2 Inhibitor Screening Assay Kit	79931	96 reactions
Spike RBD (SARS-CoV-2): ACE2 Inhibitor Screening Colorimetric Assay Kit	78018	96 reactions
Spike S1 (SARS-CoV-2): ACE2 Inhibitor Screening Colorimetric Assay Kit	79954	96 reactions

Assay Kits	Catalog#	Size
Spike S1-Biotin (SARS-CoV-2): ACE2 TR-FRET Assay Kit	79949	96 reactions 384 reactions
TMPRSS2 Fluorescent Assay Kit	78036	96 reactions

Cell Lines	Catalog#	Size
ACE2 - CHO Recombinant Cell Line	79959	2 vials
ACE2 - HEK293 Recombinant Cell Line	79951	2 vials
ACE2 - HeLa Recombinant Cell Line	79958	2 vials
Growth Medium 3J	79974	500 ml

Lentiviruses	Catalog#	Size
ACE2 Lentivirus	79944	500 µl x 2
Bald Lentiviral Pseudovirion (eGFP Reporter)	79987	500 µl x 2
Bald Lentiviral Pseudovirion (Luc-eGFP Dual Reporter)	79988	500 µl x 2
Bald Lentiviral Pseudovirion (Luciferase Reporter)	79943	500 µl x 2
Spike (SARS-CoV-2) Pseudotyped Lentivirus (eGFP Reporter)	79981	500 µl x 2
Spike (SARS-CoV-2) Pseudotyped Lentivirus (Luciferase Reporter)	79942	500 µl x 2
Spike(SARS-CoV-2) Pseudotyped Lentivirus (Luc-eGFP Dual Reporter)	79982	500 µl x 2

Proteins	Catalog#	Size
14-3-3 theta Protein, His-tag (Human)	79038	20 µg
3CL Protease (Mpro) (SARS-CoV-2)	100755	50 µg 100 µg 1 mg
3CL Protease (Mpro), MBP-tag (SARS-CoV-2)	100707	100 µg 1 mg
3CL Protease, His-tag (SARS-CoV)	100807	100 µg
3CL Protease, MBP-tag, His-tag (MERS-CoV)	100757	100 µg 1 mg
3CL Protease, MBP-tag, His-tag (SARS-CoV)	100739	100 µg 1 mg
ACE2, Fc Fusion (Monkey)	100701	50 µg 1 mg

Proteins, Substrates
Coronavirus

Proteins	Catalog#	Size
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
ACE2, His-Tag, Eu-labeled	100705	100 µg
Cas12, GST-tag (Lachnospiraceae)	100740	20 µg 50 µg
Cas12, His-tag (Lachnospiraceae)	100741	20 µg 50 µg
NSP10/NSP16 Complex (SARS-CoV-2)	100747	100 µg 1 mg
NSP7, His-tag (SARS-CoV-2)	100829	100 µg 1 mg
NSP8, His-tag (SARS-CoV-2)	100830	100 µg 1 mg
Nucleocapsid Protein, Avi-His-tag (SARS-CoV-2)	100778	100 µg 1 mg
PLP2, His-tag (SARS-CoV)	81090	25 µg
PLPro, His-tag (SARS-CoV)	81091	25 µg
PLPro, His-tag (SARS-CoV-2)	100735	100 µg 1 mg
RNA Polymerase, FLAG-tag (SARS-CoV-2)	100729	100 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 (V367F), Avi-His-tag (SARS-CoV-2) HiP™	100769	100 µg 1 mg
Spike S1 RBD (V367F), Avi-His-tag Biotin-labeled (SARS-CoV-2) HiP™	100770	25 µg 50 µg 500 µg
Spike S1 RBD, Avi-His-tag (SARS-CoV-2)	100696	100 µg 1 mg
Spike S1 RBD, Avi-His-tag, Biotin-labeled (SARS-CoV-2)	100697	25 µg 50 µg
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

Proteins	Catalog#	Size
Spike S1 RBD, Fc-Fusion, Avi-Tag, Biotin-labeled (SARS-CoV-2)	100695	25 µg 50 µg 200 µg
Spike S1 RBD, His-tag (SARS-CoV-2)	100687	50 µg 100 µg
Spike S1 RBD, Mouse Fc-tag (SARS-CoV-2)	100684	20 µg 50 µg
Spike Trimer (S1+S2) (D614G), His-tag (SARS-CoV-2)	100810	100 µg
Spike Trimer (S1+S2), His-tag (HCoV-NL63)	100788	50µg 100µg
Spike Trimer (S1+S2), His-tag (SARS-CoV)	100789	100 µg 500 µg
Spike Trimer (S1+S2), His-tag (SARS-CoV-2)	100728	100 µg 1 mg

Substrates	Catalog#	Size
3CL Protease (SARS-CoV-1 / SARS-CoV-2) Substrate	79952	1 mg 10 mg
3CL Protease (MERS-CoV) Substrate	78021	50 µg 1 mg 10 mg
3CL Protease Fluorogenic Standard	78006	1 mg
PLPro Substrate	79997	1 mg