

Abnova (Taiwan) Corp. (4133.TW)

2021 Investor Conference

Innovate through Integrated Solutions

2021/11/3



SARS-CoV/CoV-2



DNA & RNA



Proteins/Peptides



Monoclonal Ab



Polyclonal Ab



Recombinant Ab



Circulating Rare Cell



Conjugate Ab



Secondary/Tag Ab



Safe Harbor Notice

The following pages contain projections & estimates of financial information as well as market and product developments for future periods. These projections & estimates are based on information currently available which we believe to be reliable, but they involve risks & uncertainties. Our actual results of operations & financial condition may differ significantly from those contained in the projections & estimates. The projections & estimates should not be interpreted as legally binding commitments, but rather as flexible information subject to change occasionally.

Our Agenda



Abnova Company Profile

About us - Our history and archives



Abnova Q2&H1-2021 Financial Results

Q2&H1-2021 financial results, revenue by product



Abnova Product Family

The latest product development progress in 2021



Abnova Company Profile



Abnova Company Profile

Company name: Abnova Corporation
 Founded Date: January 4th, 2002
 Public Listing Date: December 28th, 2009 (TWSE: 4133)
 Headquarter: 9th Floor, 108 Zhouzi St., Neihu Dist., Taipei City, Taiwan (ROC)
 Factory Address: No. 326-8, Sec. 4, Zhongzheng Rd., Zhongli Dist., Taoyuan City 320 Taiwan (R.O.C.)
 Paid-up Capital: 605 million NTD
 President & CEO: Wilber Huang
 Employees: Approx. 160 persons

Business Plans:
 Phase I (2002-2008): Antibody Bank
 Phase II (2009-2013): Antibody and System Integration
 Phase III (2014-2016): *In Vitro* Diagnostics
 Phase IV (2017-beyond): Therapeutics

Antibody Bank:

• Mouse MaxPabs Antibody	• Rabbit MaxPabs Antibody
• Mouse Monoclonal Antibody	• Rabbit Monoclonal Antibody
• Mouse Polyclonal Antibody	• Rabbit Polyclonal Antibody
• Conjugate Antibody	• Antibody Planar Array
• Secondary Antibody	• Tag Antibody
• Ab Pairs for ELISA	• Ab Pairs for IP-WB
• Kits	• Proteins and Peptides

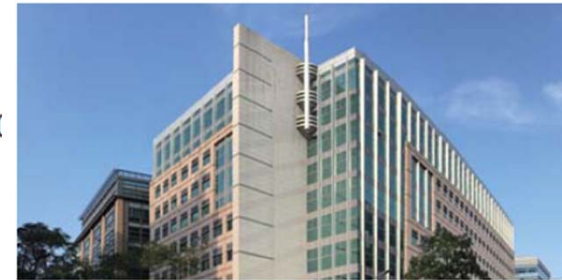
Systems & Automations:

• CytoQuest™ CR	• CytoQuest™ Dx
• CytoBot™	• CytoAmp™

Diagnostic Reagents:

- IHC Antibodies (Class I FDA & TFDA)
- FISH Probes (GMP)
- ACTN4 IHC Antibody (Class I FDA & TFDA)
- ACTN4 FISH Probe (GMP)
- EpCAM PanCK CD45 Antibody Kit (GMP)
- CSV CSV CD45 Antibody Kit (GMP)

Abnova Corporation & Subsidiaries



Abnova Headquarters

🏠 9th Fl., No.108, Jhouzih St.
 Neihu Dist., Taipei City
 114 Taiwan
 ☎ +886-2-8751-1888
 📠 +886-2-6602-1218
 ✉ sales@abnova.com

Manufacturing and SPF Facility

🏠 No. 326-8, Sec. 4,
 Zhongzheng Rd.
 Zhongli Dist.,
 Taoyuan City 320 Taiwan



Abnova Diagnostics
 www.abnovadx.com

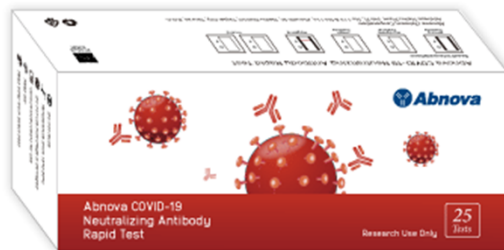
🏠 National Cancer Center
 Research Institute 3F 5
 Chome-1-1 Tsukiji, Chuo-ku,
 Tokyo 104-0045, Japan
 ☎ +81-3-6264-3448
 ✉ inquiry@abnovadx.com

Wellconn Genomics
 www.wellconn.com

🏠 9F, No. 106, Jhouzih
 Street, Neihu District,
 Taipei City, 11493, Taiwan
 ☎ +886-2-8797-2329
 ✉ inquiry@wellconn.com



COVID-19 Neutralizing Antibody Rapid Test



Latest Topics in Research

- Potential Roles of Soluble CD93 in Allergic Asthma
- Activated Caspase-11 Promotes Allergic Airway Inflammation
- Anti-inflammatory Mechanisms of IL-38 in Allergic Asthma



October E-newspaper

Things To Know About the COVID-19 Delta Variant



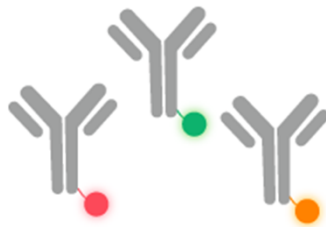
Pathways

Interactive Signaling Pathway Diagrams

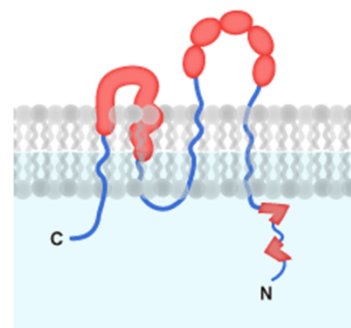
- Autophagy Pathway
 - Axon Guidance
 - RNA-interference
 - TGFβ / SMAD Signaling
 - TNF-TRAF Signaling
- [Find more](#)

Our Solutions

We provide total solutions to researchers in multidisciplinary areas



Conjugated Antibodies
Over 3600 conjugated antibodies for enhancing your research specificity

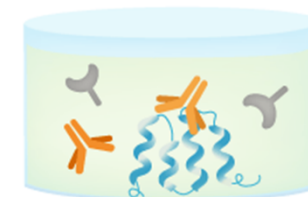


Full-length Proteins
Over 10000 Full-length Proteins for enhancing your research specificity



Oct. Featured Products

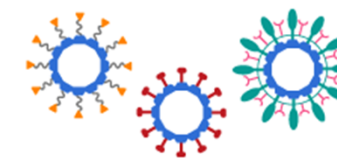
Enjoy **10% off** on the **New Products**.
Get the most out of Abnova new bioreagent tools!



COVID-19 RBD ACE2 ELISA Kit
Sensitivity quantitative determination of COVID-19 neutralizing antibody



COVID-19 Proteins
Highly specific recombinant proteins of COVID-19 to support your research



VLP Products
Highly sensitive VLP Products allow you to detect specific targets

Product Browser

- SARS-CoV/CoV-2 ▶
- DNA & RNA ▶
- Proteins/Peptides ▶
- MaxPab® Ab ▶
- DNAXpab™ ▶
- Polyclonal Ab ▶
- Monoclonal Ab ▶
- Recombinant Ab ▶
- Conjugate Ab ▶
- Secondary/Tag Ab ▶
- Beads/Dyes ▶
- Lysates/Slides ▶
- Ab Pairs/Kits ▶
- Ab & Tissue Arrays ▶
- IHC/Pathology Ab ▶
- Circulating Rare Cell Ab ▶
- In Situ Hybridization ▶
- Systems & Automations ▶
- GMP/ASR/IVD ▶

Last updated: 2021/10/17

Quick Order (Tutorial)

Input Catalog #, place order here!

Catalog #:

Home ▶ Products

Product Browser

SARS-CoV/CoV-2

DNA & RNA Proteins/Peptides

Antibody Ab Pairs/Kits Beads/Dyes

Lysates

Ab & Tissue Arrays

In Situ Hybridization

Circulating Rare Cell

IHC/Pathology Ab

Systems & Automations

GMP/ASR/IVD



Abnova Q2&H1-2021 Financial Results



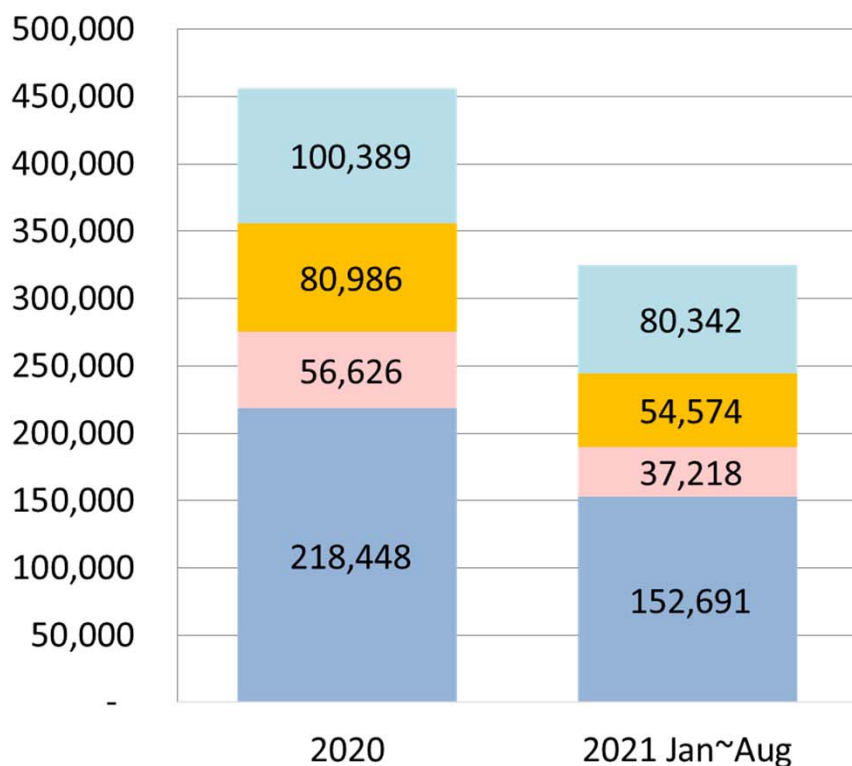
Consolidated Income Statement Q2&H1 2021

	Q2'21	%	Q2'20	%	H1'21	%	H1'20	%	H1 YOY
Net Revenue	124,254	100.00%	103,319	100%	238,582	100.00%	203,229	100.00%	17.40%
Cost of Revenue	-70,557	-56.78%	-56,609	-54.79%	-133,377	-55.90%	-110,523	-54.38%	20.68%
Gross Profit	53,697	43.22%	46,710	45.21%	105,205	44.10%	92,706	45.62%	13.48%
Operating Expense	-39,677	-31.93%	-38,309	-37.08%	-79,203	-33.20%	-77,020	-37.90%	2.83%
Operating Income	14,020	11.28%	8,401	8.13%	26,002	9.90%	15,686	7.72%	-65.77%
Non Operating Income	-4,503	-3.62%	-3,009	-2.91%	-4,282	-2.79%	-900	-0.44%	375.78%
Income before Tax	9,517	7.66%	5,392	5.22%	21,720	8.10%	14,786	7.28%	-46.90%
Income after Tax	6,917	5.57%	4,122	3.99%	16,679	5.99%	11,818	5.82%	41.13%
Basic EPS after Tax	0.11		0.07		0.28		0.2		

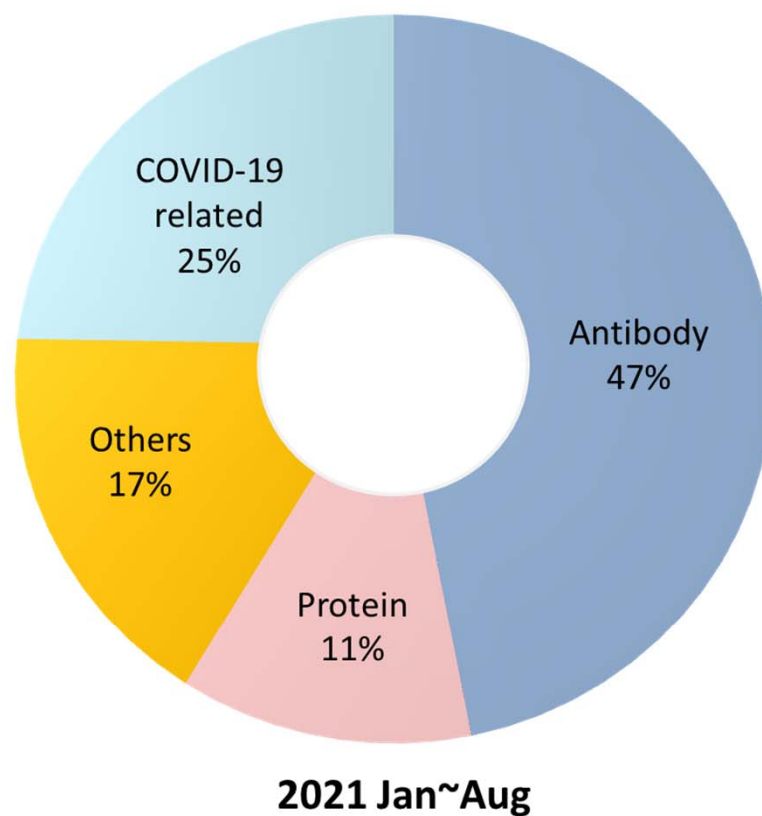


Revenue Breakdown by Product

In NT\$K



COVID-19 related Others
Protein Antibody



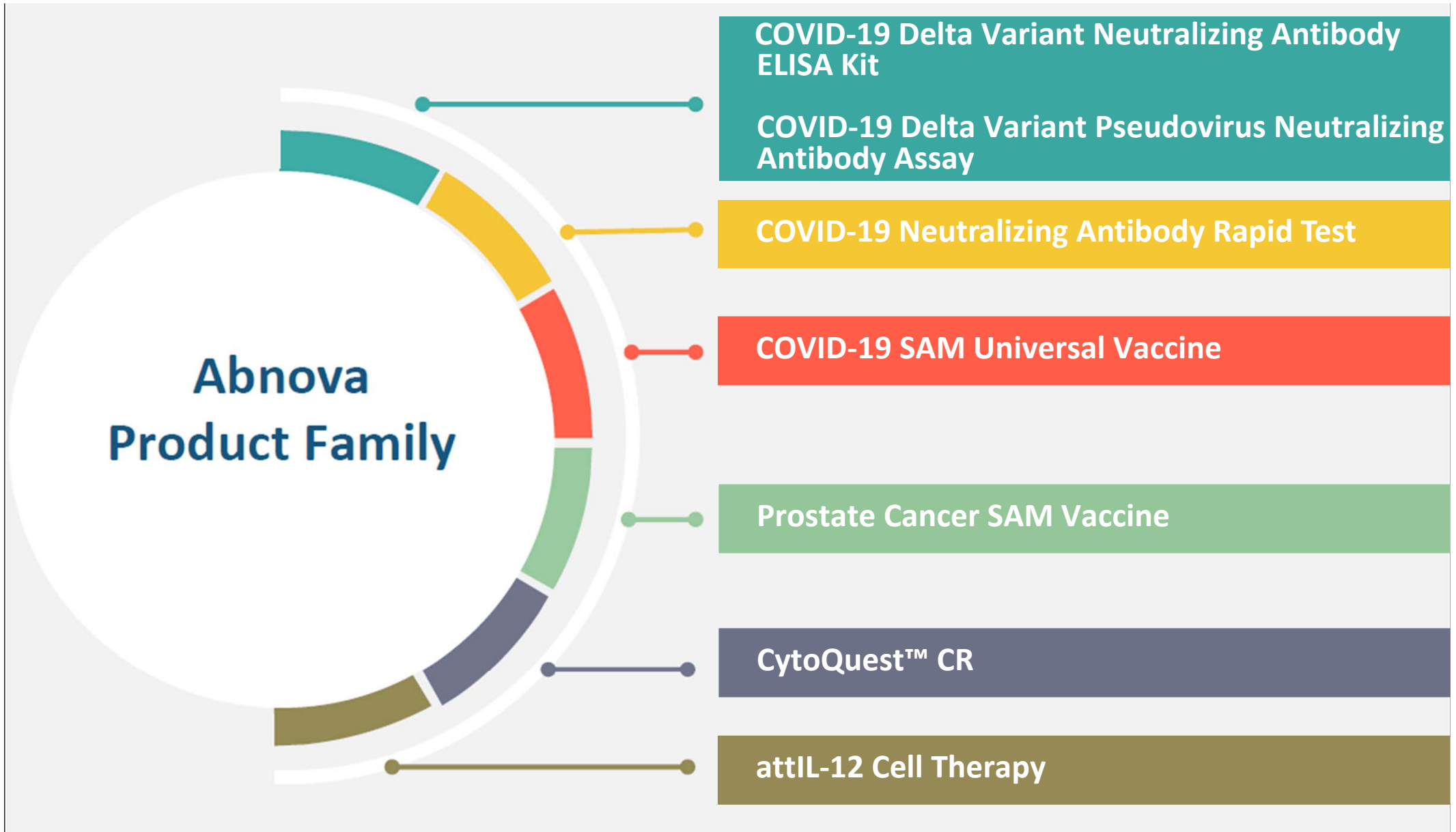
2021 Jan~Aug



Abnova Product Family

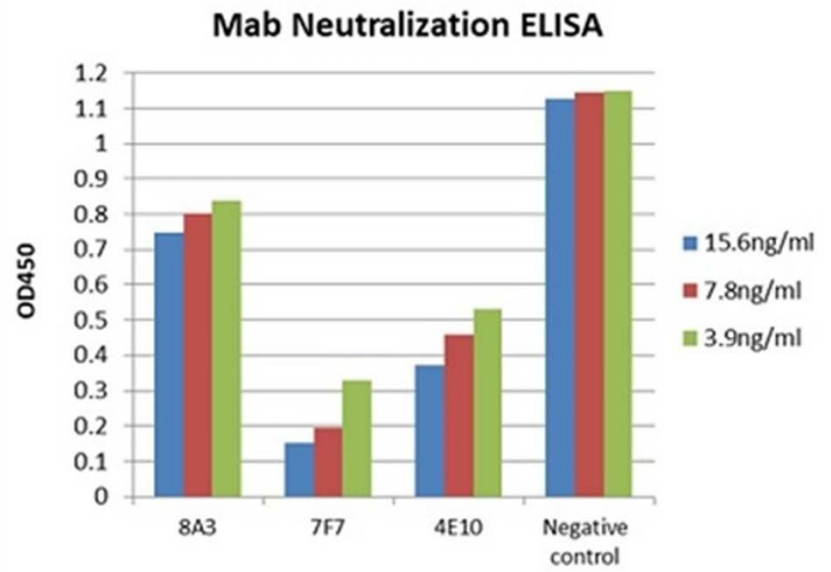
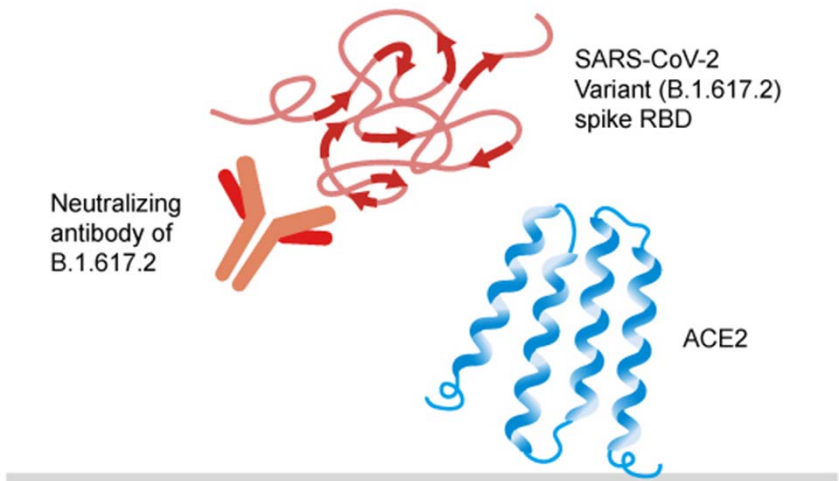


Abnova Product Family



COVID-19 Delta Variant Neutralizing Antibody ELISA Kit

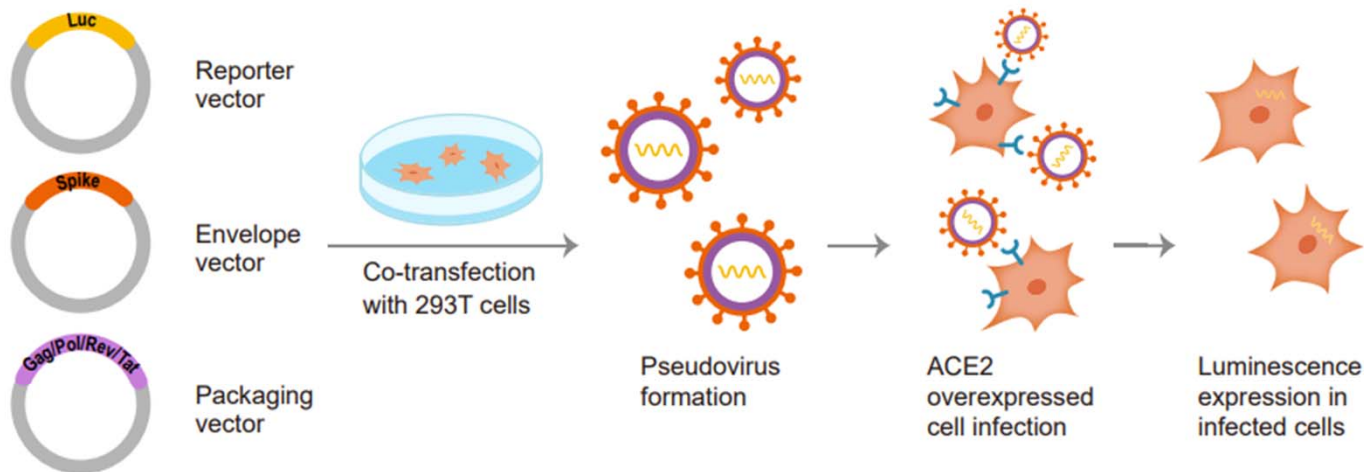
Product Name	Suitable Samples	Detection Method
COVID-19 Delta Variant Neutralizing Antibody ELISA Kit	<ol style="list-style-type: none"> Human Serum Mouse Serum Culture Supernatant 	Colorimetric



COVID-19 Delta Variant Pseudovirus Neutralizing Antibody Assay

Product Name	Suitable Samples	Detection Method
COVID-19 Delta Variant Pseudovirus Neutralizing Antibody Assay	<ol style="list-style-type: none"> 1. Immunized Serum 2. Infected Serum 3. Neutralizing Antibodies 4. Peptide inhibitors or Proteins 5. Compounds Targeting Spike Induced Cell Fusion 	Luciferase Activity

Pseudoviruses are useful virological tools because of versatility and safety for emerging (SARS-CoV-2) and re-emerging viruses (MERS-CoV, Nipah virus). Using the Coronavirus spike lentiviral vector system with luciferase (Luc) reporter gene, different pseudoviruses can be generated with different outer membrane proteins essential for viral entry into a surface receptor expressing 293T cells.



Leveraging the technology of pseudovirus production, Abnova has developed SARS-CoV-2 and SARS-CoV-2 variant pseudovirus neutralization assays for high sensitivity and specificity quantification of COVID-19 neutralizing antibodies.

COVID-19 Delta Variant Pseudovirus Neutralizing Antibody Assay

Product Name	Suitable Samples	Detection Method
COVID-19 Delta Variant Pseudovirus Neutralizing Antibody Assay	<ol style="list-style-type: none"> 1. Immunized Serum 2. Infected Serum 3. Neutralizing Antibodies 4. Peptide inhibitors or Proteins 5. Compounds Targeting Spike Induced Cell Fusion 	Luciferase Activity

Featured Products

B.1.617.2

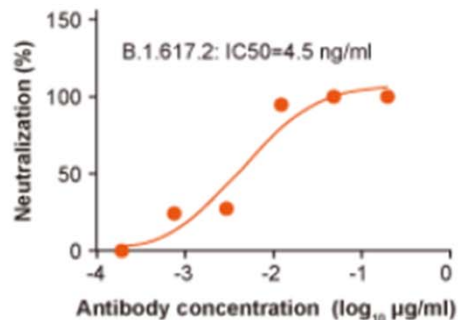


SARS-CoV-2 Variant (B.1.617.2) Pseudovirus Expressing Luciferase

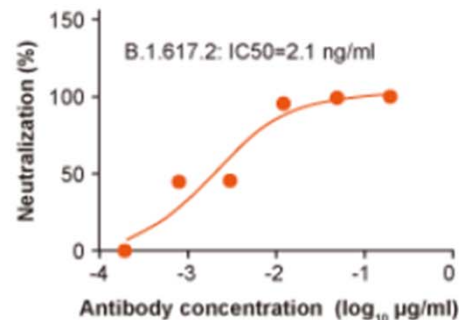
Activity: 1.2×10^6 TU/mL

COVID-19 Variant (B.1.617.2) Pseudovirus Neutralizing Antibody Assay (Luciferase)

Humanized 7F7



LALAPG 7F7

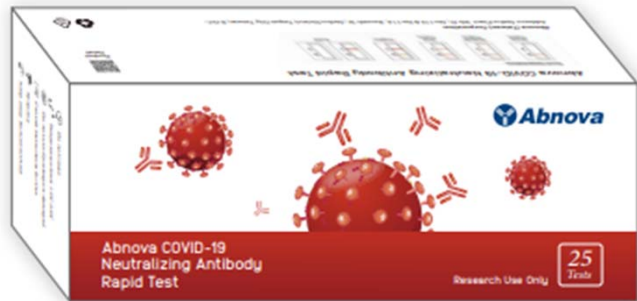


COVID-19 Neutralizing Antibody Rapid Test

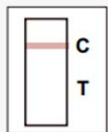
To monitor the titer of neutralizing antibodies after vaccination

Features

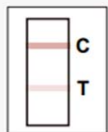
- Easy to operate
- Fast result in 10 minutes
- High sensitivity and specificity



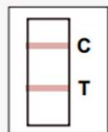
Result Interpretations



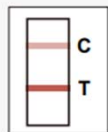
Strong Positive



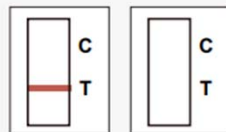
Moderate Positive



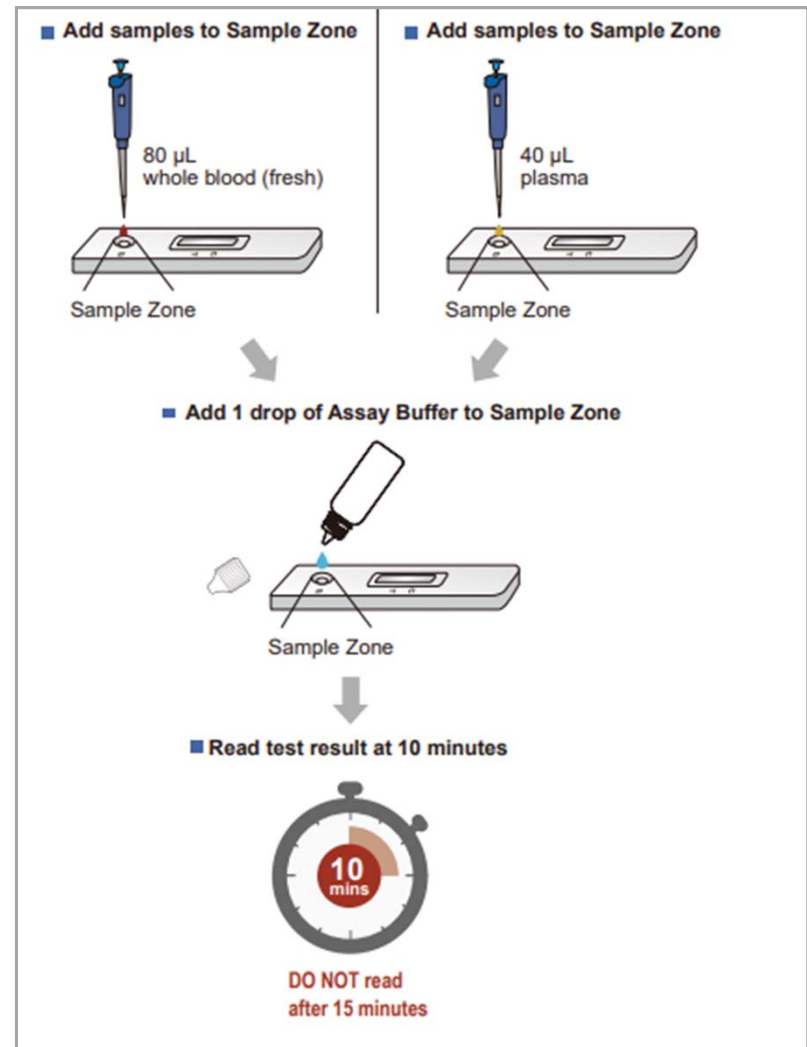
Weak Positive



Negative



Invalid



COVID-19 SAM Universal Vaccine

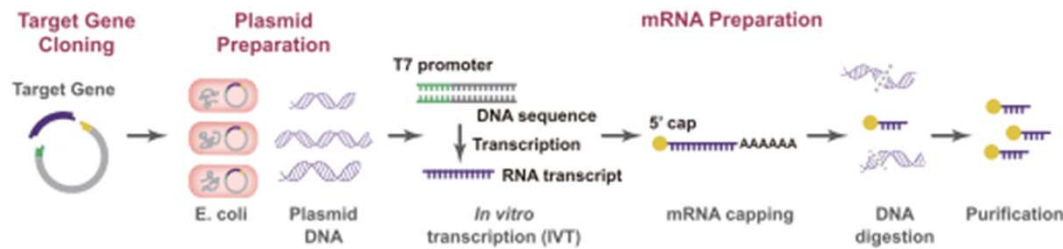
Background

The COVID-19 pandemic has ushered a new era in vaccine development. Traditional vaccines based on peptide, protein, and viral vectors have given way to new technologies utilizing DNA and mRNA as antigens to build a protective immune response. Biotech companies such as Moderna and BioNTech have pioneered the use of mRNA as vaccine against COVID-19 demonstrating not only proof-of-concept but also effective viral prevention in large-scale Phase 3 clinical trials. Derived from an alphavirus genome, self-amplifying mRNA (SAM) encodes the alphaviral replicase and a gene of interest (GOI) which enables replication of RNA upon delivery into the cytoplasm. This unique feature of self-amplification distinguishes from the mRNA counterparts. Abnova has developed a COVID-19 SAM RBD (receptor-binding domain) formulated in lipid nanoparticle (LNP) which generates higher antibody titer response than mRNA, setting the precedence for the next-generation vaccines.

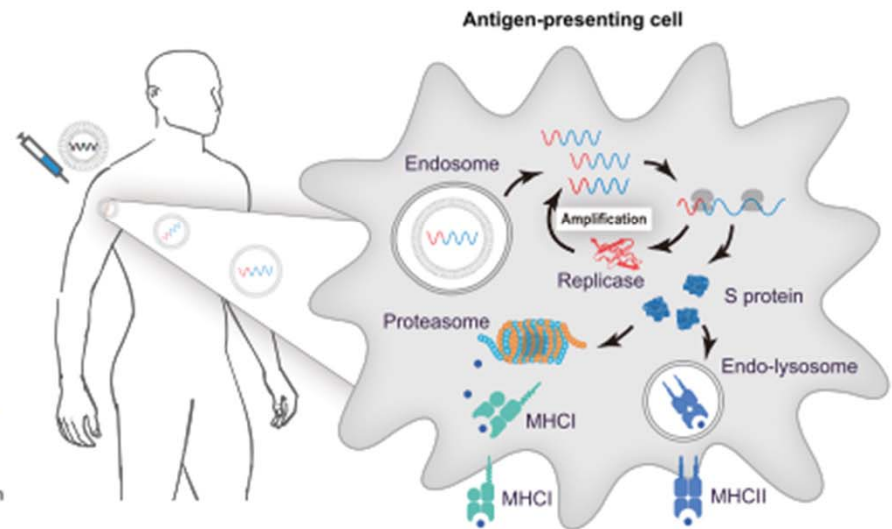
SAM Construct



SAM Preparation



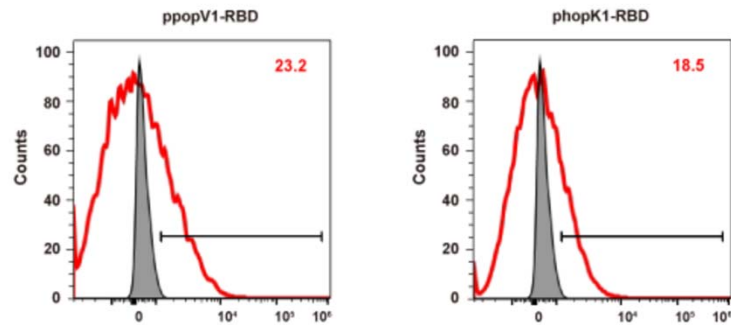
SAM Immunization



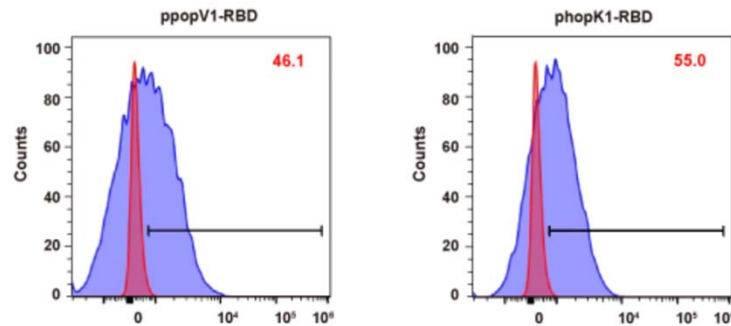
COVID-19 SAM Universal Vaccine

1 RBD SAM TransIT BHK-21 and 293T *In Vitro* Transfection Flow Cytometry Studies

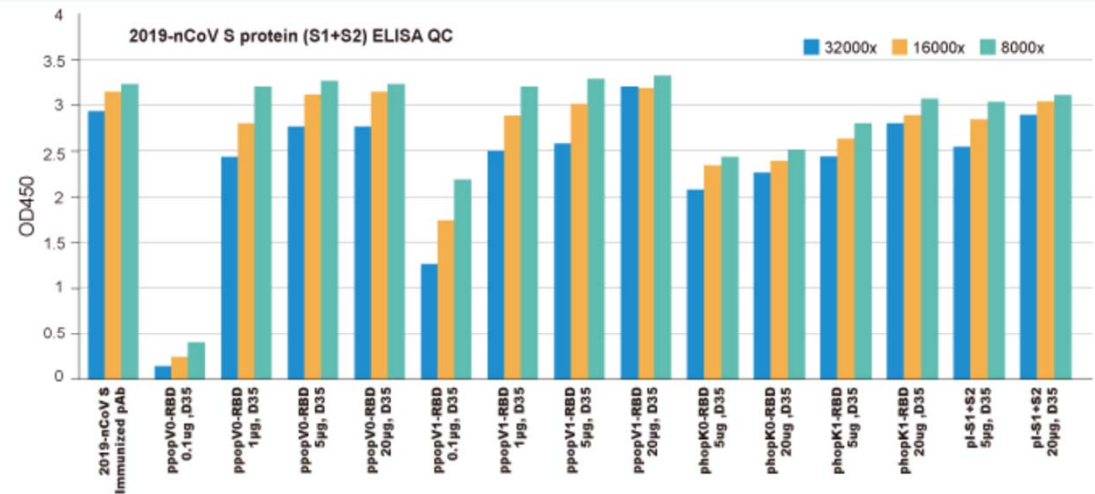
- BHK-21



- 293T



2 RBD SAM LNP and S1+S2 SAM LNP Induce High Titer Antibody Response Against SARS-CoV-2 Protein



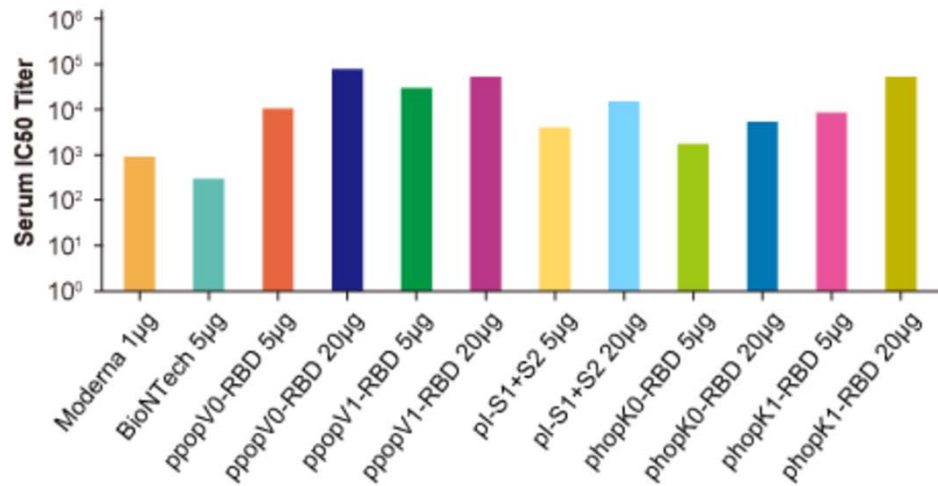
Day 0 and 28 Immunization, Day 35 Polyclonal Mouse Sera

- ppopV0-RBD – COVID-19 RBD SAM LNP no adjuvant
- ppopV1-RBD – COVID-19 RBD SAM plus adjuvant
- phopK0-RBD – COVID-19 RBD SAM LNP no adjuvant
- phopK1-RBD – COVID-19 RBD SAM plus adjuvant
- pl-S1+S2 – COVID-19 S1+S2 SAM LNP no adjuvant
- 2019-nCoV S – COVID-19 RBD protein-Fc tag immunization (Control)

COVID-19 SAM Universal Vaccine

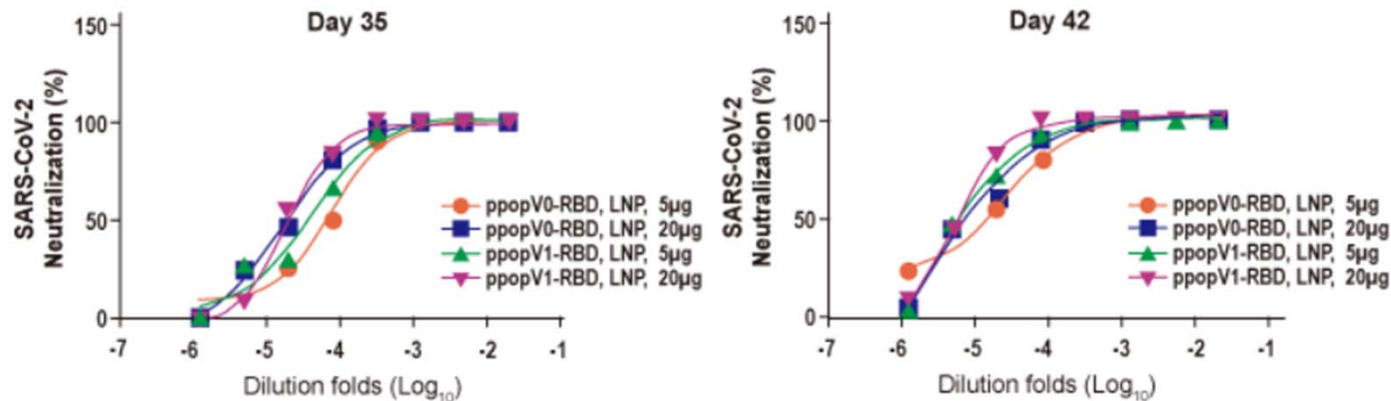
3 Comparison of Post-Immunization Mouse Sera Antibody Titers

Comparing the antibody titer of Abnova's ppopV0-RBD, ppopV1-RBD, pl-S1+S2, phopK0-RBD and phopK1-RBD with Moderna's mRNA-1273 and BioNTech/Pfizer's BNT162b2



4 Correlation between SARS-CoV-2 IgG and SARS-CoV-2 Pseudovirus Neutralization

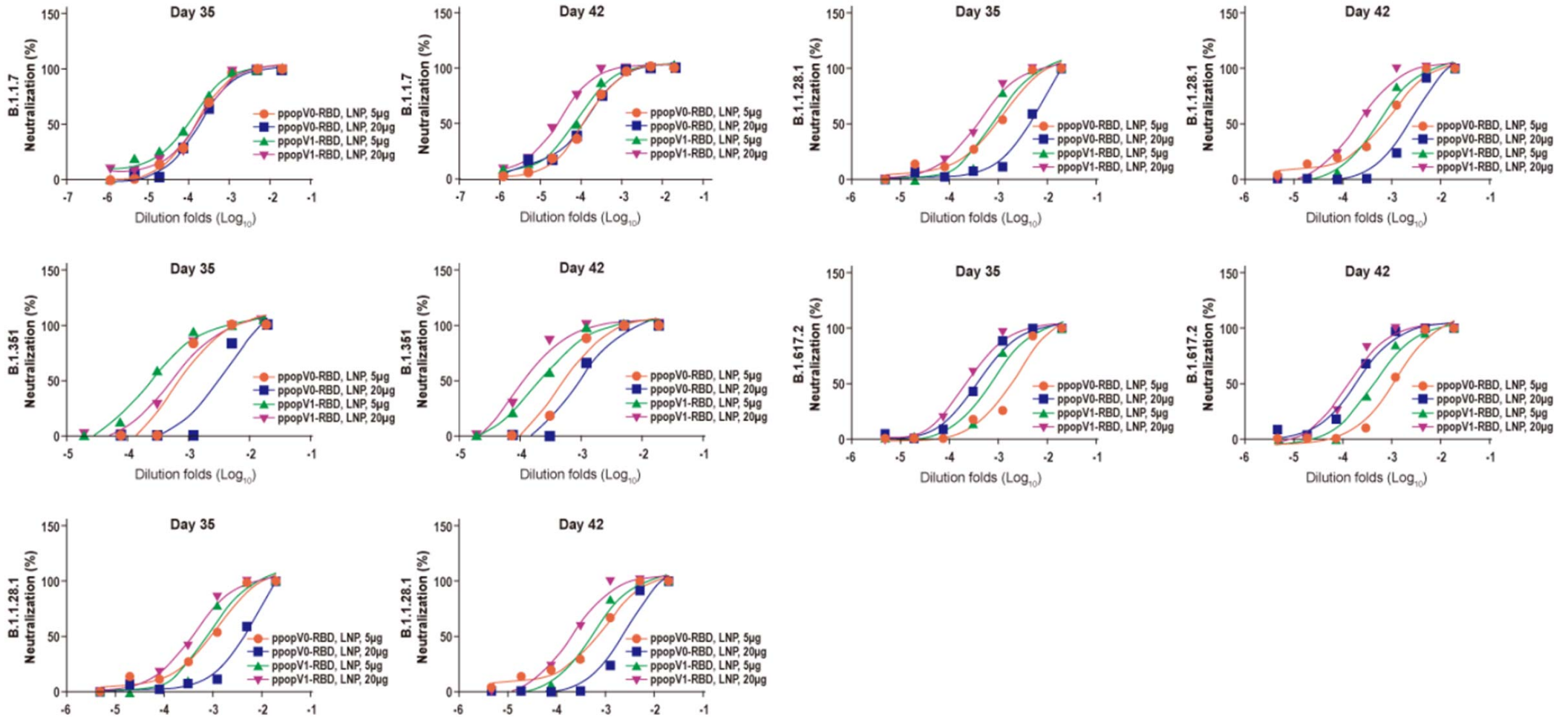
RBD-binding IgG responses in mouse sera collected 35 days and 42 days after immunization with 5 µg or 20 µg ppopV0-RBD, and 5 µg or 20 µg ppopV1-RBD.



COVID-19 SAM Universal Vaccine

5 Correlation between SARS-CoV-2 IgG and SARS-CoV-2 Variant Pseudovirus Neutralization

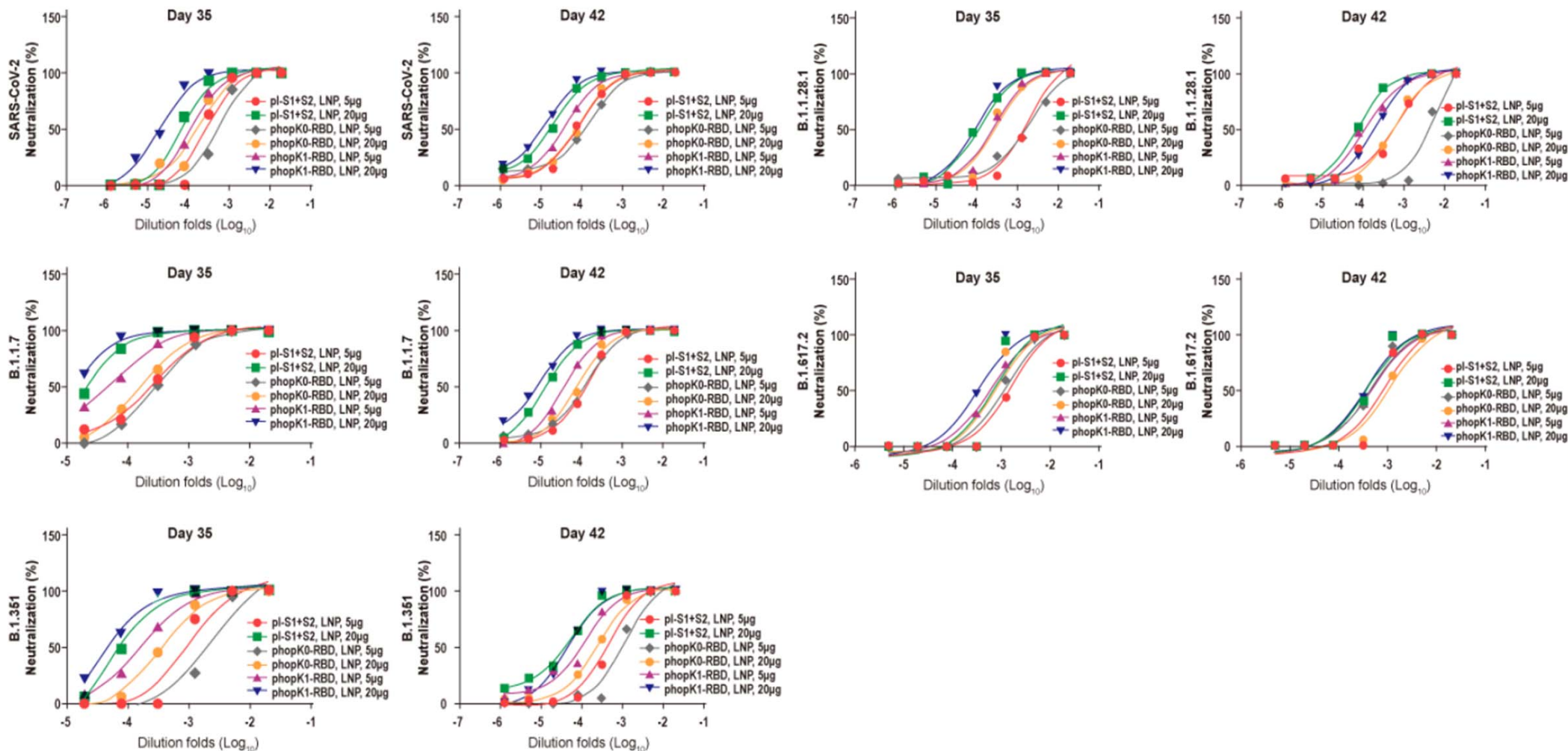
RBD-binding IgG responses in mouse sera collected 35 days and 42 days after immunization with 5 μ g or 20 μ g ppopV0-RBD, and 5 μ g or 20 μ g ppopV1-RBD.



COVID-19 SAM Universal Vaccine

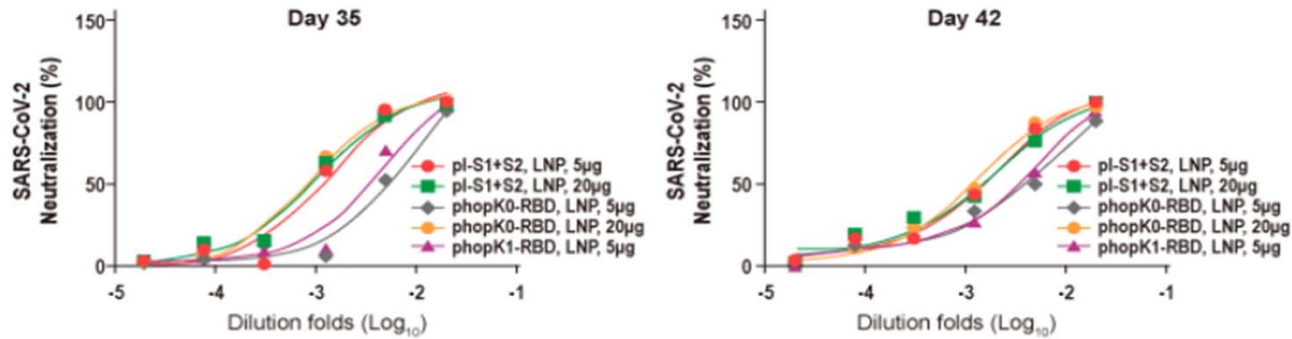
6 Comparison of RBD vs S1+S2 SAM Between SARS-CoV-2 and SARS-CoV-2 Variant Pseudovirus Neutralization

RBD-binding IgG responses in mouse sera collected 35 days and 42 days after immunization with 5 µg or 20 µg pl-S1+S2, 5 µg or 20 µg phopK0-RBD, and 5 µg or 20 µg phopK1-RBD.



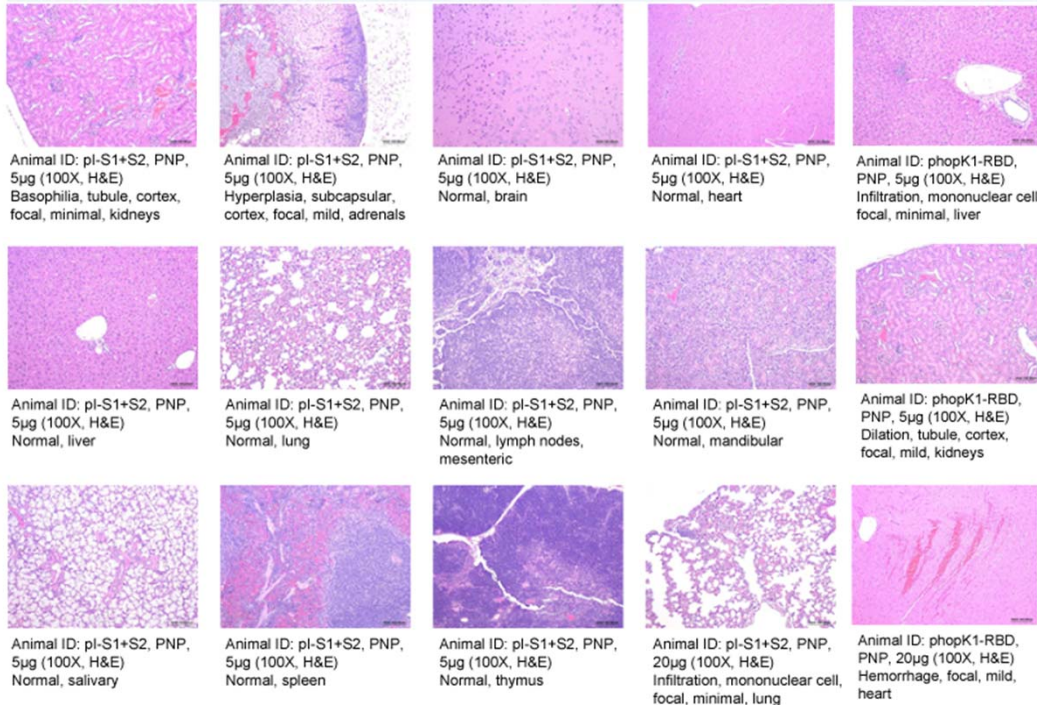
COVID-19 SAM Universal Vaccine

12 Single Injection Day 35 and Day 42 SARS-CoV-2 Pseudovirus Neutralization



13 Comparison of *In Vivo* Toxicity

• Representative Images of Histopathologic Findings



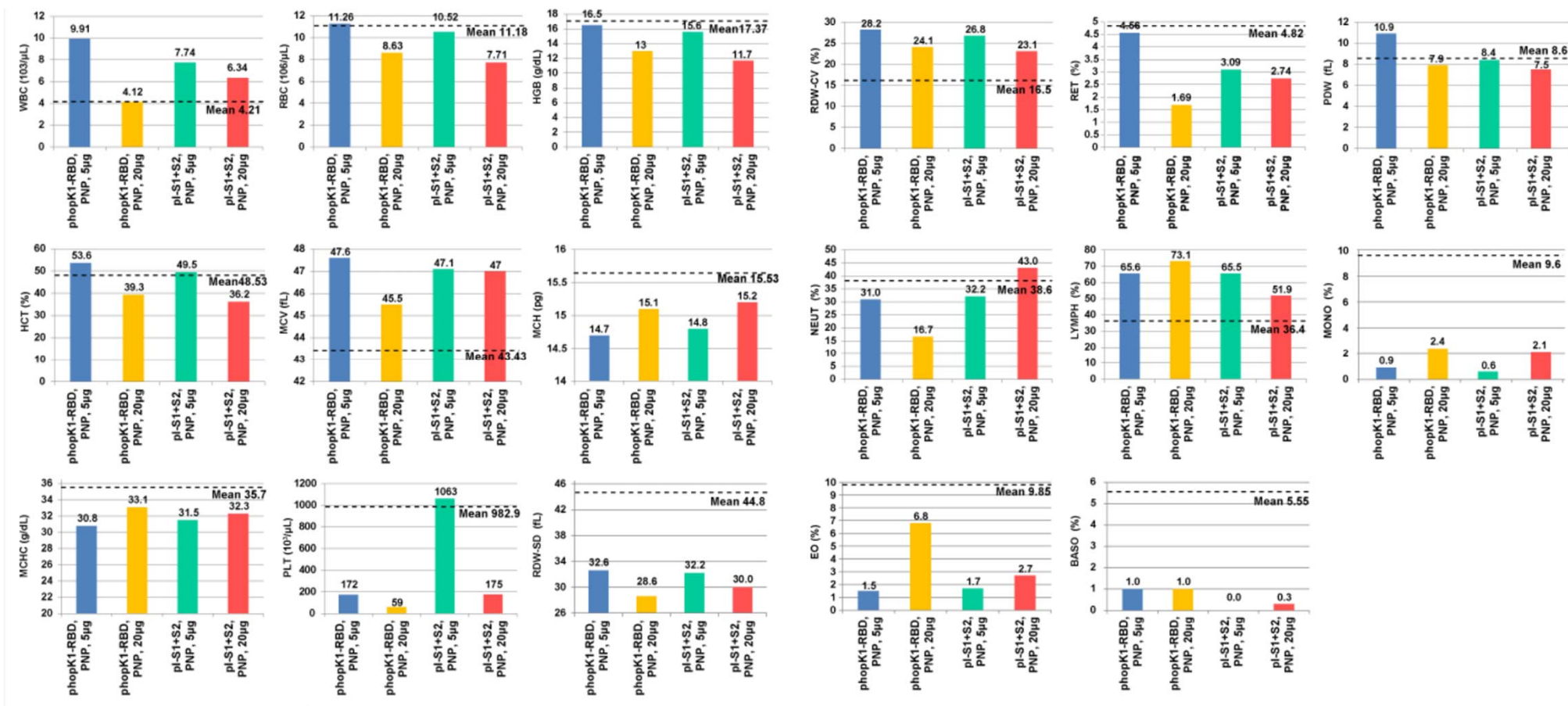
• Individual Histopathologic Data in All Animals

The severity grading scheme: 1 = minimal (< 10 %), 2 = mild (10-39 %), 3 = moderate (40-79 %), 4 = marked (80-100 %).
The symbol -, indicating no abnormal findings

Animal ID	pl-S1+S2, PNP, 5µg	pl-S1+S2, PNP, 20µg	phopK1-RBD PNP, 5µg	phopK1-RBD PNP, 20µg
Heart	-	-	-	-
Hemorrhage, focal	-	-	-	2
Liver	-	-	-	-
Infiltration, mononuclear cell, focal	-	-	1	-
Spleen	-	-	-	-
Lung	-	-	-	-
Infiltration, mononuclear cell, focal	-	1	-	-
Kidneys	-	-	-	-
Basophilia, tubule, cortex, focal	1	-	-	-
Dilation, tubule, cortex, focal	-	-	2	-
Adrenal gland	-	-	-	-
Hyperplasia, subcapsular, cortex, focal	2	2	2	3
Brain	-	-	-	-
Thymus	-	-	-	-
Lymph nodes, mandibular	-	-	-	-
Lymph nodes, mesenteric	-	-	-	-

COVID-19 SAM Universal Vaccine

Individual CBC Parameters Data



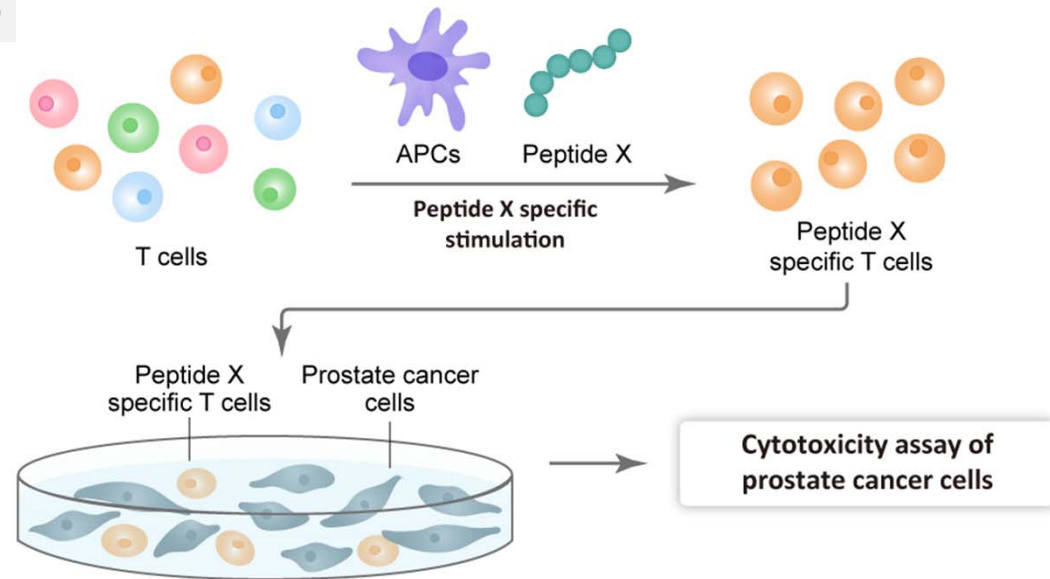
- According to the histopathology examination, there were not observable toxic evidence of the test article (SAM Vaccine) under this study. All data generated from the study would provide safety criteria information for human exposure.



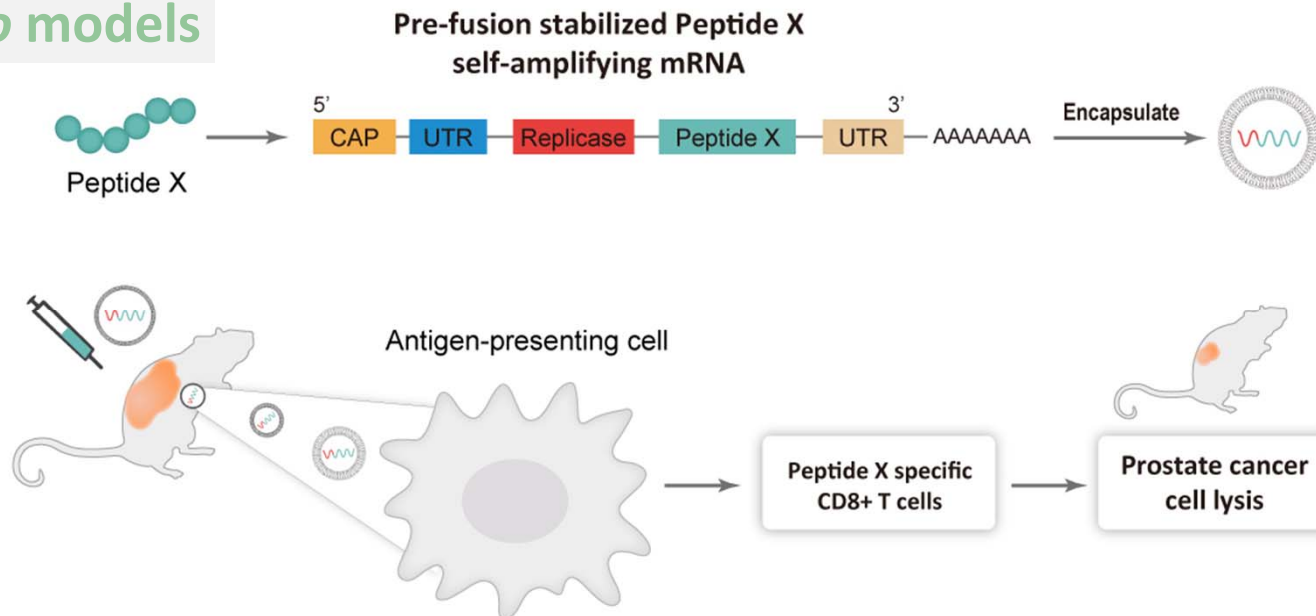
This *In Vivo* Toxicity study was conducted by BioLASCO.

Prostate Cancer SAM Vaccine

in vitro models



in vivo models



CytoQuest™ CR

Class III CFDA Approval

新聞稿:亞諾法中國區合作夥伴杭州華得森, 取得中國NMPA頒發的第一張循環腫瘤細胞檢測系統第三類醫療器械認證
2021/09/06

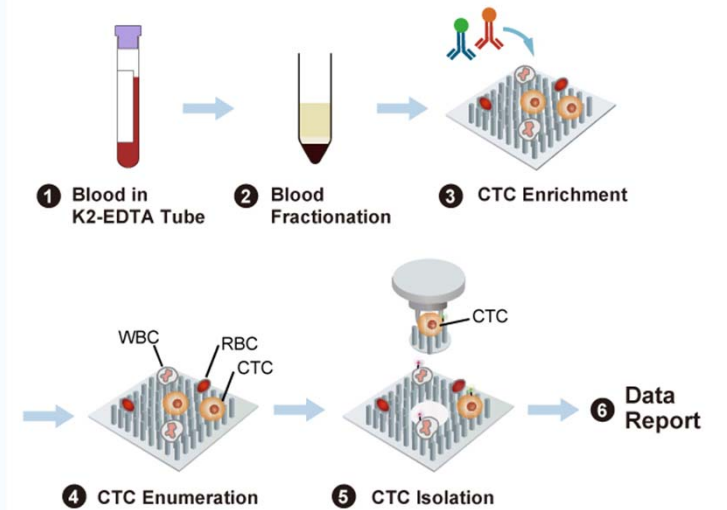
亞諾法中國區合作夥伴杭州華得森, 取得中國NMPA頒發的第一張循環腫瘤細胞檢測系統第三類醫療器械認證

台灣台北市內湖區, 2021年9月6日

亞諾法中國地區精準醫療策略合作夥伴-杭州華得森生物技術有限公司生產製造之循環腫瘤細胞 (CTC, Circulating tumor cell) 檢測系統CytoSorter®, 於7月28日取得中國NMPA (國家藥品監督管理局) 批准的第三類醫療器械註冊證, 同時並為中國NMPA頒發的第一張循環腫瘤細胞檢測系統第三類醫療器械認證。亞諾法透過中國地區授權合作模式, 將亞諾法自主研發之循環腫瘤細胞檢測系統、檢測晶片與檢測試劑套組整套輸出至杭州華得森。未來雙方持續攜手在中國循環腫瘤檢測及臨床應用領域深入發展, 提供循環腫瘤細胞液體活檢及基因分子診斷的完整解決方案。

現行癌症診斷與監控治療的標準為依據傳統影像學與組織切片, 然而這些方式無法涵蓋複雜的癌細胞族群之異質性與監控微量殘存疾病。循環腫瘤細胞是從實體腫瘤原發灶或轉移灶脫落而進入周邊血液的腫瘤細胞, 是腫瘤復發轉移的關鍵。在腫瘤發展病程中, 都可能有腫瘤細胞脫落進入周邊血。監測周邊血中CTC數量的變化, 即時反應患者腫瘤病程進展, 可提供預後和復發轉移等資訊, 為癌症患者提供精準、即時、非侵入性的系統解決方案, 可實現腫瘤早期篩查、療效監測、預後評估、復發轉移監測、個體化用藥方案指導。

液體活檢自2016年, 中國科技部於十三五醫療器械科技創新專項規劃列入加快發展的前沿技術, 並自2017年於增強製造業核心競爭力三年行動計畫中納入為高端醫療器械和藥品關鍵技術產業化項目。中國第一張循環腫瘤細胞檢測系統第三類註冊證產品的頒發, 是中國液體活檢CTC領域的重大突破, 顯示中國對於CTC檢測之重視, 其安全性和有效性得到了中國公部門的認可。亞諾法將持續穩定供應杭州華得森循環腫瘤細胞檢測儀器、晶片與試劑套組生產出貨需求, 攜手杭州華得森持續推動中國液體活檢CTC的臨床深度應用與科研發展。

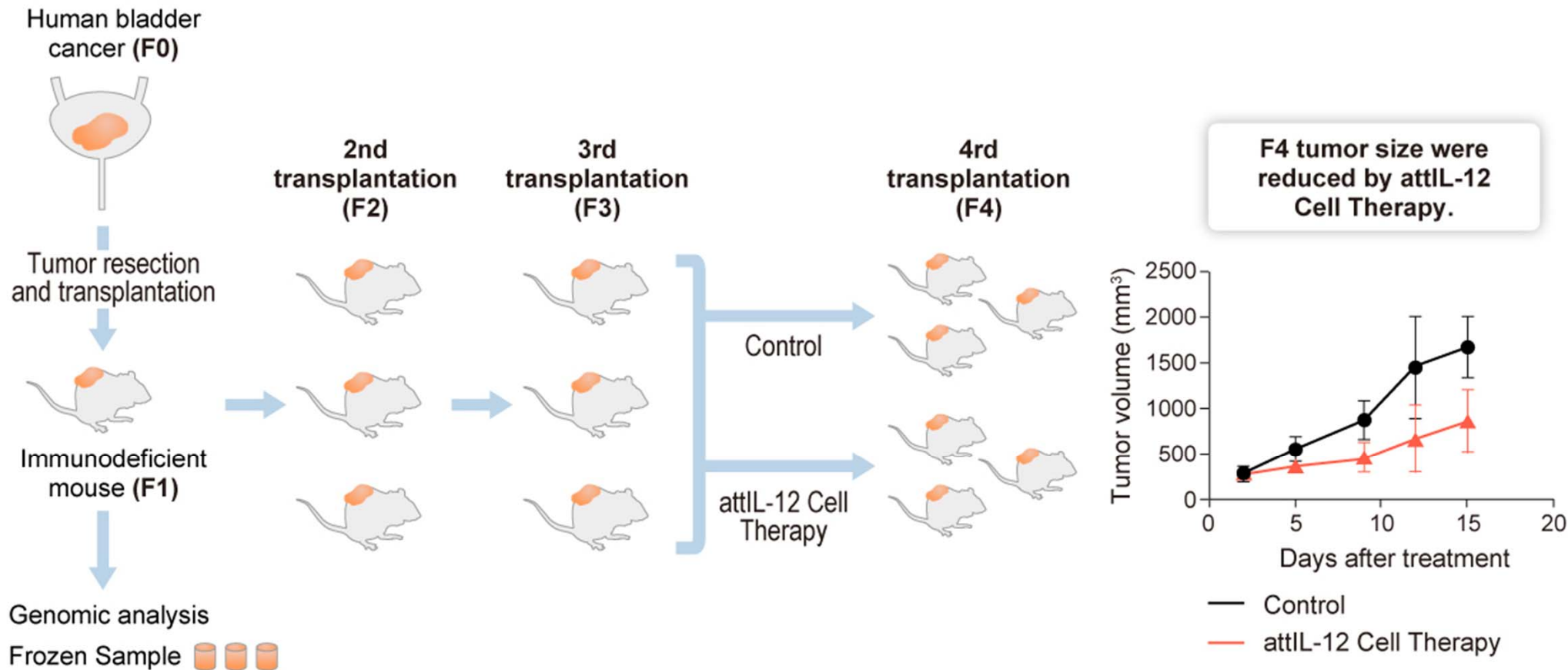


Oral Cancer	Lung Cancer	Liver Cancer	Pancreatic Cancer	Kidney Cancer	Renal Cancer	Colorectal Cancer	Prostate Cancer	Choriocarcinoma	Fetal Trophoblasts
CTCs as Metastatic Biomarker in Oral Squamous Cell Carcinoma	Cell-Surface Vimentin and Pan Cytokeratin Positive CTCs in Pleural Effusion of Lung Adenocarcinoma Patient	Antibodies Targeting ASGPR and PanCK for Capture and Identification of Circulating Hepatocellular Carcinoma Cells	Cell-Surface Vimentin as Biomarker for Pancreatic Cancer Circulating Tumor Cells	Circulating Epithelial Cells in Dialysis Patient with Acquired Cystic Kidney Disease	B7-H3 CD105 Positive Cancer Stem Cells in Clear Cell Renal Cell Carcinoma	CDX2 Intestinal-Specific Expression in CTCs of Metastatic Colorectal Adenocarcinoma Patient	PSMA Antibody Capture of CTCs in Metastatic Castration-Resistant Prostate Cancer Patient	Antibodies Targeting HLA-G and PanCK for Capture and Identification of Circulating Choriocarcinoma Cells	Prenatal Detection of Fetal Trophoblasts in Maternal Circulation



attIL-12 Cell Therapy

Bladder Cancer PDX Model



Thank You

Abnova

Innovate through Integrated Solutions



SARS-CoV/CoV-2



DNA & RNA



Proteins/Peptides



Monoclonal Ab



Polyclonal Ab



Recombinant Ab



Circulating Rare Cell



Conjugate Ab



Secondary/Tag Ab

