



GeneTex

Marketing Materials of Virus Research







YY Chien

Feedbacks against SARS-CoV-2 research

- For lateral flow assay, we highly recommend GTX635686 SARS-CoV-2 (COVID-19) nucleocapsid antibody [HL448] and GTX635689 SARS-CoV-2 (COVID-19) nucleocapsid antibody [HL5511], because that this pair has been successfully made for rapid test device by a TW company and approved by CE certification. This pair is approved by TW FDA too and has been used in TW hospital with great feedback since 2021.

Lateral Flow Assay (Recommended Antibody Pairs)

Antibody Pair	Product Name	Clonality	EC50	Cat. No.
 Pair I	  Nucleocapsid antibody [HL5511]	Rb recAb	14 pM	GTX635689
	 Nucleocapsid antibody [HL448]	Rb recAb	11 pM	GTX635686
Pair II	 Nucleocapsid antibody [HL5410]	Rb recAb	9 pM	GTX635685
	 Nucleocapsid antibody [HL455]	Rb recAb	6 pM	GTX635688

Marketing materials

- FIVE landing pages

Your Expertise, Our Antibodies, Accelerated Discovery

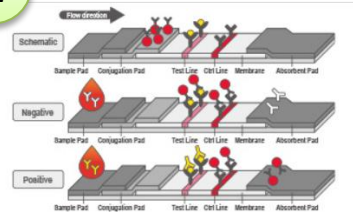
1



SARS-CoV-2 (COVID-19) Antibodies and Reagents

GeneTex continues to expand and validate its comprehensive catalog of outstanding

2



SARS-CoV-2 Proteins and Antibodies for Lateral-flow-based Neutralization Assay

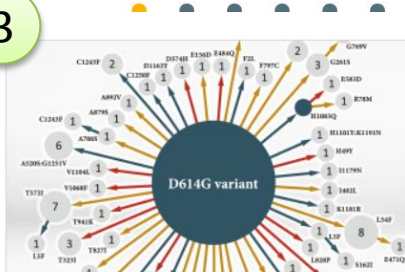
GeneTex has collaborated with an...



GeneTex Webinar Series

View previous presentations by leading researchers.

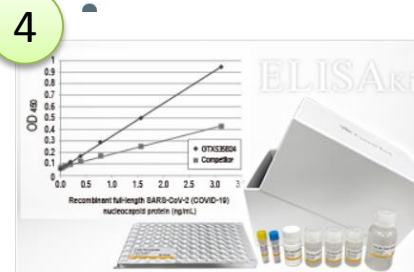
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SARS-CoV-2 Virus Variants

There are multiple SARS-CoV-2 variants currently spreading across the planet, with

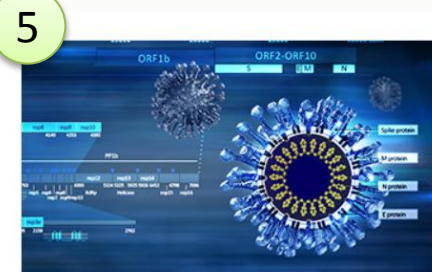
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ELISA Kits

GeneTex SARS-CoV-2 (COVID-19) Nucleocapsid Protein Sandwich ELISA Kit

5



SARS-CoV-2 (COVID-19)

A Review of the SARS-CoV-2 (COVID-19) Genome and Proteome



Marketing materials

- 2 NEW flyers

SARS-CoV-2 RecAb, rProtein and ELISA kits

Quality Antibodies - Quality Results

GeneTex
Your Specialist in Antibodies/Recombinant Proteins

SARS-CoV-2 Antibodies and Proteins

- Lateral Flow Assay / ELISA Pairs
- Superior Affinity and Specificity
- Neutralization Assay Kit
- VOC Detection

Targeted Region of Spike	Antibody Cat. No.	Clone	WUFOV2019 Reference sequence	B.1.1.7 (Alpha)	B.1.351 (Beta)	P1 (Gamma)	B.1.1.7.2 (Delta)
RBD	GT3613887	HL3114	•	•	•	•	•
RBD	GT3613976	HL3090	•	•	•	•	•
RBD	GT3613792	HL3093	•	•	•	•	•
RBD	GT3613791	HL3094	•	•	•	•	•
S1	GT3613711	HL31462	•	•	•	•	•
S1	GT3613706	GT261	•	•	•	•	Not tested
S2	GT3613804	148	•	•	•	•	•
S2	GT3613693	HL217	•	•	•	•	•

Recombinant spike protein (insert) derived from different SARS-CoV-2 variants were assayed by indirect ELISA using the specified GeneTex monoclonal antibodies.

A strong detection: Defined as OD450 value > 1 when IgG/IgM protein was used.
A weak detection: Defined as OD450 value < 1 when IgG/IgM protein was used.
A no detection: Defined as OD450 value < 1 when IgG/IgM protein was used.

GeneTex has augmented its extensive catalog of SARS-CoV-2/COVID-19 reagents with the production of recombinant proteins and antibodies for spike (S), nucleocapsid (N), and other viral proteins. Generated in GeneTex's state-of-the-art recombinant antibody facility, the recombinant antibodies exhibit high affinity and specificity. The recombinant as well as conventional monoclonal and polyclonal antibodies are validated for an array of applications including WB, IHC, ICC/IF, ELISA, FACS, lateral flow assay, and functional assays. Spike recombinant proteins are offered in full-length, subunit, or RBD formats for the different viral variants, including the four variants of Concern (VOC). In addition, recombinant proteins for nucleocapsid and other SARS-CoV-2 proteins are available.

Neutralization / Binding Assay Kit

SARS-CoV-2 (COVID-19) Spike RBD Binding/Neutralization Assay Kit (GT3X15420)

RBD Protein Sandwich ELISA Kit

SARS-CoV-2 (COVID-19) Spike RBD Protein Sandwich ELISA Kit (GT3X15267)

Nucleocapsid Protein Sandwich ELISA Kit

Highlighted Products

Cat. No.	Product Name	Clonality	Applications
GT3613711	Spike RBD antibody (HL3093)	Rb-mAb	ELISA, Neutralizing/Inhibition, Sandwich ELISA
GT3613792	Spike RBD antibody (HL3093)	Rb-mAb	ELISA, Neutralizing/Inhibition, Sandwich ELISA
GT3613686	Spike RBD antibody (HL3093-HL2)	Rb-mAb	ELISA, Neutralizing/Inhibition, Sandwich ELISA
GT3613692	Spike S1 antibody (HL245)	Rb-mAb	WB, ICC/IF, ELISA, Sandwich ELISA, IHC, FACS (post-purified)
GT3613710	Spike S2 antibody (HL31036)	Rb-mAb	WB, ICC/IF, ELISA, Sandwich ELISA, IHC, FACS (post-purified)
GT3613604	Spike S2 antibody (148)	MA-mAb	ELISA, IHC, FACS, IF, ELISA, Sandwich ELISA, IHC, FACS (post-purified)
GT3613686	Nucleocapsid antibody (HL448)	Rb-mAb	WB, ICC/IF, IHC, ELISA, Lateral-Flow, Sandwich ELISA, IHC, FACS (post-purified)
GT3613689	Nucleocapsid antibody (HL5111)	Rb-mAb	WB, ICC/IF, ELISA, Lateral-Flow, Sandwich ELISA, IHC, FACS (post-purified)
GT313812	ngsp1 antibody	Rb-pAb	WB, ICC/IF, IHC, FACS (post-purified)
GT313698	ngsp1 antibody	Rb-pAb	WB, ICC/IF, IHC, FACS (post-purified)
GT313470	IC2pro (ngsp1) antibody	Rb-pAb	WB, ICC/IF, IHC, FACS (post-purified)
GT3613696	ngsp1 antibody (245K)	MA-mAb	WB, ICC/IF, IHC, FACS (post-purified)
GT313732	ngsp1 antibody	Rb-pAb	WB, ICC/IF, IHC, FACS (post-purified)
GT313742	ngsp1 antibody	Rb-pAb	WB, ICC/IF, IHC, FACS (post-purified)
GT313647	ngsp12 antibody	Rb-pAb	WB, ICC/IF, IHC, FACS (post-purified)
GT313718	ngsp15 antibody	Rb-pAb	WB, ICC/IF, IHC, FACS (post-purified)
GT3613602	ORF1a antibody (12C)	MA-mAb	WB, ICC/IF, IHC, FACS (post-purified)
GT313591	ORF1a antibody	Rb-pAb	WB, ICC/IF, IHC, FACS (post-purified)

Cat. No.	Product Name	Expression System	Applications
GT3X15972 pro	Spike (EC2) protein, His tag (actives)	HEK293	ELISA, Functional Assay, Sandwich ELISA
GT3X16059 pro	Spike (EC2) Protein, B.1.1.7 / Alpha variant, His tag (actives)	HEK293	ELISA, Functional Assay
GT3X16091 pro	Spike (EC2) Protein, P.1 / Gamma variant, His tag (actives)	HEK293	ELISA, Functional Assay, Sandwich ELISA
GT3X16430 pro	Spike (EC2) Protein, B.1.1.7.2 / Delta variant, His tag (actives)	HEK293	ELISA, Functional Assay, Sandwich ELISA
GT3X16014 pro	Spike RBD Protein, B.1.1.7 / Alpha variant, His tag (actives)	HEK293	ELISA, Functional Assay, Sandwich ELISA
GT3X16045 pro	Spike RBD Protein, P.1 / Gamma variant, His tag (actives)	HEK293	Functional Assay
GT3X16014 pro	Spike RBD Protein, B.1.1.7 / Alpha variant, His tag (actives)	HEK293	ELISA, Functional Assay
GT3X16059 pro	Nucleocapsid protein, His tag	HEK293	ELISA, Sandwich ELISA

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Tools for LFA and Neutralization assay

Quality Antibodies - Quality Results

GeneTex
Your Specialist in Antibodies/Recombinant Proteins

SARS-CoV-2 Proteins and Antibodies for Lateral-flow-based Neutralization Assay

GeneTex has collaborated with an outside lab to create the key recombinant reagents for development of a lateral-flow-based neutralization assay for SARS-CoV-2. These components are designed to allow detection of neutralizing antibodies in a sample by demonstrating decreased interaction between the viral spike protein receptor-binding domain (RBD) and the ACE2 receptor in a lateral flow assay (LFA) format (Figure 1). Since these antibodies and proteins are recombinant, they are easily scalable for commercial purposes.

Figure 1: Schematic of LFA neutralization assay.
 (A) Negative Control: Shows RBD binding to ACE2 on the test line, resulting in a red line. No neutralizing antibody is present.
 (B) Neutralizing Antibody Concentration: Shows increasing concentrations of neutralizing antibody (from 0 to 1000 ng/ml) inhibiting RBD-ACE2 interaction, resulting in a decrease in the red line intensity.
 (C) Positive: Shows RBD binding to ACE2 on the test line, resulting in a red line. No neutralizing antibody is present.

Legend:
 RBD: SARS-CoV-2 spike RBD protein
 ACE2: Human ACE2 (EC2) antibody
 Neutralizing antibody: Anti-SARS-CoV-2 spike RBD protein-neutralizing antibody

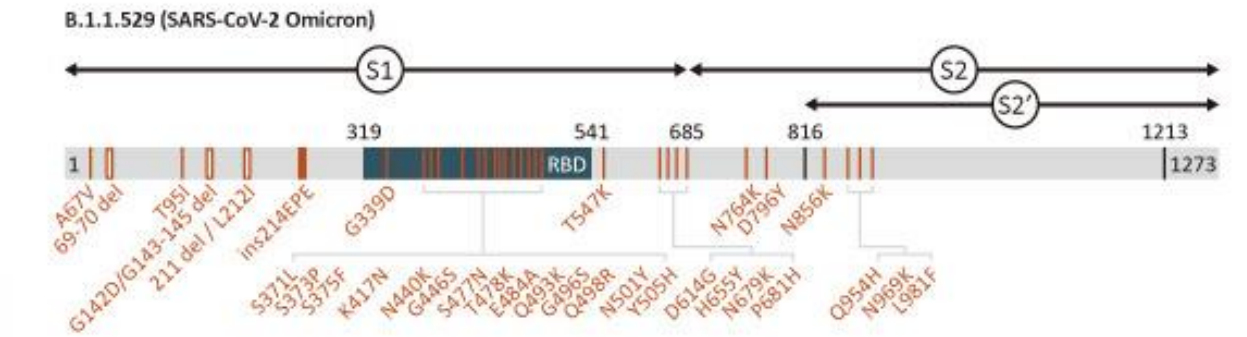
Reagents for Neutralization Assay

Cat. No.	Product Name	Application
GT3X15972 pro	Spike (EC2) protein, His tag (actives)	ELISA, Functional Assay, Sandwich ELISA
GT3X16059 pro	Spike (EC2) Protein, B.1.1.7 / Alpha variant, His tag (actives)	ELISA, Functional Assay
GT3X16091 pro	Spike (EC2) Protein, P.1 / Gamma variant, His tag (actives)	ELISA, Functional Assay, Sandwich ELISA
GT3X16430 pro	Spike (EC2) Protein, B.1.1.7.2 / Delta variant, His tag (actives)	ELISA, Functional Assay, Sandwich ELISA
GT3X16014 pro	Spike RBD Protein, B.1.1.7 / Alpha variant, His tag (actives)	ELISA, Functional Assay, Sandwich ELISA
GT3X16045 pro	Spike RBD Protein, P.1 / Gamma variant, His tag (actives)	Functional Assay
GT3X16014 pro	Spike RBD Protein, B.1.1.7 / Alpha variant, His tag (actives)	ELISA, Functional Assay, Sandwich ELISA
GT3X16059 pro	Spike RBD Protein, B.1.1.7.2 / Delta variant, His tag (actives)	ELISA, Functional Assay
GT3X16014 pro	Spike RBD protein, ACE2 (Delta also variant), His tag	Functional Assay
GT3613686	Spike RBD antibody (HL3093-HL2)	Neutralizing/Inhibition, Sandwich ELISA
GT3613791	Spike RBD antibody (HL3093)	Neutralizing/Inhibition, Sandwich ELISA
GT3X16045 pro	Human ACE2 (EC2) protein, His tag (actives)	ELISA, Functional Assay
GT3613887	ACE2 antibody (GT1942)	WB, IHC, ELISA, Sandwich ELISA

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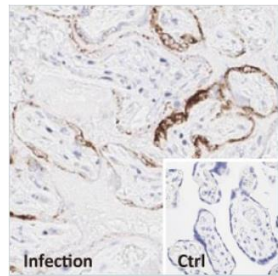
Up-to-date

- Omicron Variant

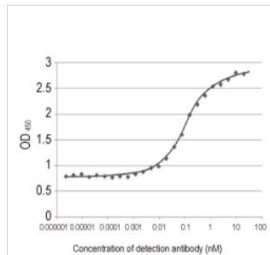


- On 26 November 2021, the WHO designated the SARS-CoV-2 variant B.1.1.529 to be the fifth Variant of Concern (VOC) and assigned it the name “Omicron”. This variant has more than **thirty** changes in the spike protein with fifteen point mutations in the RBD, including several found in other VOCs linked to increased transmissibility and blocking antibody evasion. Omicron probably originated in southern Africa but is now known to be in many countries.
- GeneTex has a wide range of antibodies whose immunogens do not contain any Omicron mutation sites, thus **making them ideal reagents for studies of this variant.**

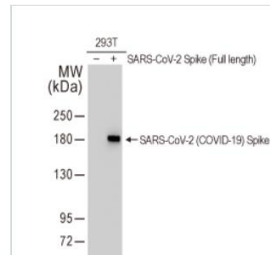
Product highlights



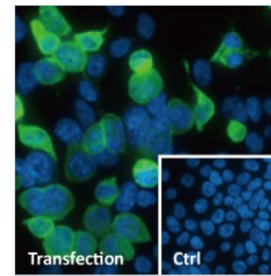
Spike RBD antibody
[HL257] (GTX635692)



Spike S1 antibody [HL1]
(GTX635656)



Spike S2 antibody
[HL237] (GTX635693)



Spike antibody [1A9]
(GTX632604)



➤ GeneTex antibodies that may detect the Omicron VOC spike protein based on immunogen sequence analysis.

Product Name	Clonality	Applications	Cat. No.
Spike RBD antibody [HL257]	Rb RecAb	WB, ICC/IF, IHC-P, ELISA, IHC-P (cell pellet)	GTX635692
Spike S1 antibody [HL1]	Rb RecAb	WB, ICC/IF, ELISA, Sandwich ELISA	GTX635656
Spike S2 antibody [HL237]	Rb RecAb	WB, ICC/IF, ELISA, Sandwich ELISA, IHC-P (cell pellet)	GTX635693
Spike antibody [1A9]	Ms mAb	WB, ICC/IF, IHC-P, FACS, IP, ELISA, EM, Sandwich ELISA, IHC-P (cell pellet)	GTX632604
Spike antibody	Rb pAb	WB, ICC/IF, ELISA, Sandwich ELISA	GTX135360
Spike RBD antibody	Rb pAb	WB, ICC/IF	GTX135385
Spike S2 / S2' antibody	Rb pAb	WB, ICC/IF, ELISA, Sandwich ELISA	GTX135386

Marketing materials

- Key version



- Landing page

https://www.genetex.com/MarketingMaterial/Index/newsletter_OmicronVariant

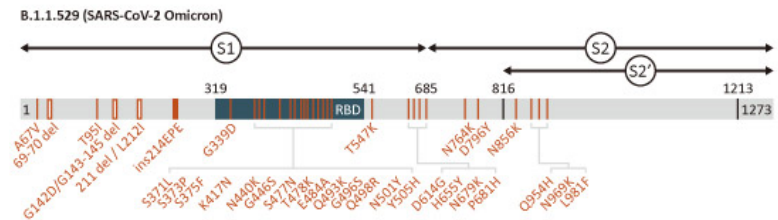
- Social Media

– FB, LinkedIn, Twitter

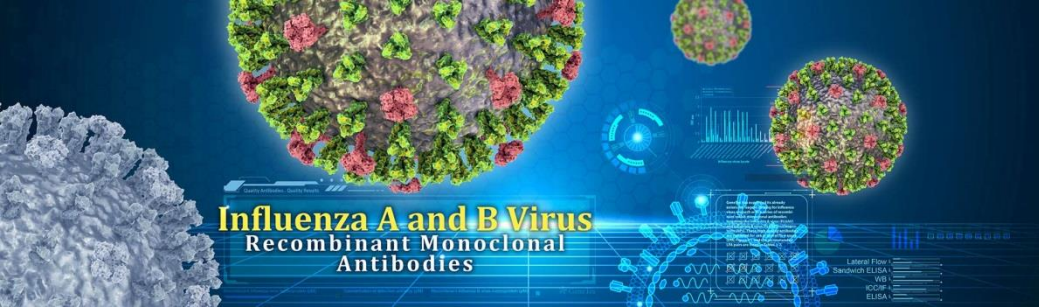
- Newsletter sent out Nov.30th



The SARS-CoV-2 Omicron Variant



On 26 November 2021, the WHO designated the SARS-CoV-2 variant B.1.1.529 to be the fifth Variant of Concern (VOC) and assigned it the name "Omicron". This variant has more than thirty changes in the spike protein with fifteen point mutations in the RBD, including several found in other VOCs linked to increased transmissibility and blocking antibody evasion. Omicron probably originated in southern Africa but is now known to be in many countries. Recognition of this variant has been facilitated due to "S gene dropout", meaning that one of the three PCR target genes is not detected.



Feedbacks against Influenza research

- We have worked with a IVD company to perform lateral flow assay by using our influenza antibodies. The results turn out to be very promising. These monoclonal antibodies are of highly potential as raw materials to be incorporated into a rapid test product for clinical use in testing influenza. We believe these data are attractive to all IVD customers. All data can be reviewed in the landing page.
- <https://www.genetex.com/MarketingMaterial/Index/InfluenzaAB>

NEW flyer is arrival!

Quality Antibodies · Quality Results

Highly Sensitive and Specific Recombinant Influenza Antibodies for Lateral Flow Assay

GeneTex has expanded its already extensive reagent catalog for influenza virus research with a series of recombinant rabbit monoclonal antibodies targeting the influenza A virus (FLUAV) and influenza B virus (FLUBV) nucleoproteins (NP). These high-quality antibodies were validated for use in lateral flow assay (Figure 1).

Influenza A				Influenza B			
Clon	WH	MS	MS2	Clon	VC	VC2	VC3
Recombinant Rabbit Anti-Influenza A Virus Nucleoprotein Antibody (HL1103) Detection: Clone HL 1103 (1774920119) Capture: Clone HL 1088 (1774920127)				Recombinant Rabbit Anti-Influenza B Virus Nucleoprotein Antibody (HL1088) Detection: Clone HL 1088 (1774920100) Capture: Clone HL 1089 (1774920103)			

Figure 1. Detection of recombinant nucleoprotein (NP) from influenza A virus (A) or influenza B virus (B) by lateral flow assay using the indicated recombinant rabbit monoclonal antibody pairs.

Importantly, at least sixteen FLUBV strains and nine FLUBV strains can be detected by ELISA, western blot and immunochromatography including FLUBV VN1 and VN2 subtypes. These recombinant antibodies showed higher sensitivities compared to a competitor's clones (Figure 2.3).

Influenza A virus type		Influenza B virus type	
GeneTex	Competitor	GeneTex	Competitor
0.8	0.2	1.8	0.5
1.2	0.3	1.5	0.4
1.5	0.4	1.2	0.3
1.8	0.5	1.0	0.2
2.0	0.6	0.8	0.1

Figure 2. Comparison of GeneTex recombinant antibodies and market leading clones.

Figure 3. Recombinant FLUBV and FLUBV NP antibodies are validated for many applications and have excellent sensitivity.

Taken together, this data demonstrates the potential value of these recombinant antibodies for diagnostic applications. A complete list of applications is shown below for each product.

Featured proteins and antibodies for FLUAV research

Call No.	Product Name	Format	Applications
CTF636139	Influenza A virus Nucleoprotein antibody (HL1076)	Rb-mAb	WB, ICC/IF, ELISA, Sandwich ELISA, LFA
CTF636247	Influenza A virus Nucleoprotein antibody (HL1086)	Rb-mAb	WB, ICC/IF, ELISA, Sandwich ELISA, LFA
CTF636128	Influenza A virus Nucleoprotein antibody (HL1072)	Rb-mAb	WB, ICC/IF, ELISA, Sandwich ELISA, LFA
CTF636103	Influenza A virus Nucleoprotein protein (A/Thailand/02/19/02) (HN2), DCOOK Tag	N/A	ELISA, LFA
CTF636056	Influenza A virus Nucleoprotein protein (A/Cambodia/2009/H/101), DCOOK Tag	N/A	ELISA
CTF636117	Influenza A virus Nucleoprotein protein (A/Hong Kong/2671/2019) (HN2), DCOOK Tag	N/A	ELISA, LFA
CTF636068	Influenza A virus Nucleoprotein protein (A/Wuhan/3591/2019) (HN2), DCOOK Tag	N/A	ELISA, Sandwich ELISA, LFA

Featured proteins and antibodies for FLUBV research

Call No.	Product Name	Format	Applications
CTF636059	Influenza B virus Nucleoprotein antibody (HL1060)	Rb-mAb	WB, ICC/IF, ELISA, Sandwich ELISA, LFA
CTF636100	Influenza B virus Nucleoprotein antibody (HL1061)	Rb-mAb	WB, ICC/IF, ELISA, Sandwich ELISA, LFA
CTF636124	Influenza B virus Nucleoprotein antibody (HL1073)	Rb-mAb	WB, ICC/IF, ELISA, Sandwich ELISA, LFA
CTF636067	Influenza B virus Nucleoprotein (B/Sydney/05/99) (NP34), DCOOK Tag	N/A	ELISA, LFA
CTF636277	Influenza B virus Nucleoprotein (B/Kyushu/01/95), DCOOK Tag	N/A	ELISA, LFA

Brochure for Virology

- https://www.genetex.com/upload/media/MarketingMaterial/PDF/Brochure/AntibodiesForVirologyResearch_brochure_300dpi_rgb.pdf

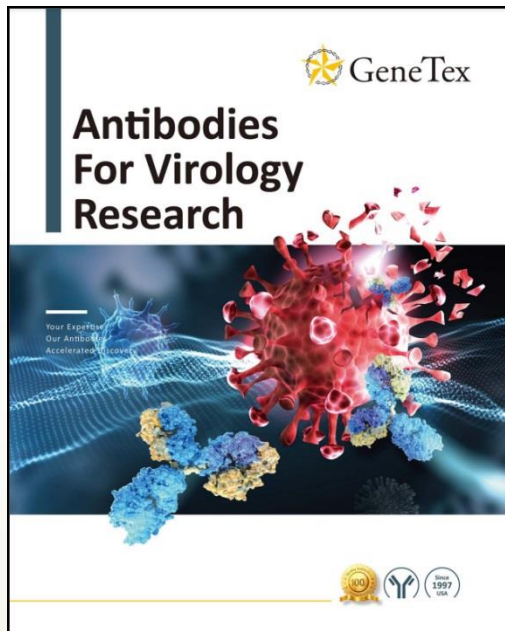


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Quality Antibodies. Quality Research. 01

G-level quantities

- GeneTex has experience producing gram-level quantities of its recombinant antibodies, and the fact that they are recombinant guarantees consistent performance. Samples are available by request for companies' in-house testing and validation.

2022 Goal

- The 2nd largest recombinant antibodies manufacturer, close to Abcam. 600 targets in 2022 while 1000 targets in 2023.
- Reach IVD customers for SARS-cov-2, Influenza, RSV, etc. RecAb and Protein can be Materials of Rapid test kits.

THANK YOU

GeneTex

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