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Critical Reagents in China

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Founder & CSO

AbMax Biotechnology Co, LTD.



- 1. Difficult to have access to critical reagents**
- 2. Collaborations of NIFDC with reagents companies & vaccine developers**
- 3. Lists of critical reagents developed by AbMax**
- 4. Capacity available to develop and manufacture critical reagents**

Access to International standards



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WHO international standards

Product Number	Description
00/410	MAPREC assay of poliovirus type 1 (Sabin) 100% 480-S, 525-C DNA (1st International Reference Preparation)
00/416	Low Mutant Virus Reference for MAPREC assay of poliovirus type 1 (Sabin) (1st International Reference Preparation)
00/418	MAPREC assay of poliovirus type 1 (Sabin) (1st International Standard)
00/422	High Mutant Virus Reference for MAPREC assay of poliovirus type 1 (Sabin) (1st International Reference Preparation)
00/464	Streptokinase (2nd International Standard 2001)
00/560	Hepatitis A Virus for Nucleic Acid Amplification Techniques (2nd International Standard)
00/572	Interferon Beta (Human, rDNA, Glycosylated) (2nd International Standard)
0078P	Human Act1 Pneumococcal capsule Reference Serum (1st International Standard)
01/420	Interleukin-17 (Human rDNA derived) (International Reference Reagent)
01/528	Oral Poliovaccine Sabin Type 1 reference strain J.L.S.-c, 2nd strain (Panel of 3 arms/units)

https://nibsc.org/products/brm_product_catalogue/who_standards.aspx



Purchase from Global vendors

1. Antisera for Meningococcal and Pneumococcal polysaccharides from DSI
2. Assays for Residual Protein A & HCP from Cygnus



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NIFDC leads the collaborations

1. Potency assays for 4-Val HPV vaccines distributed to vaccines developers, 9-Val in development
2. Potency assay for Rabies vaccine in development
3. Residual Protein A detection kit launched
4. Commercial HCP Detection kits for CHO, E.Coli, SF9, etc
5. Potency assays for HFMD
6. Potency assays for Norovirus

Reagents from domestic vendors

1. **Rabies Vaccine Quantitation Kit from Wuhan Biol. Inst.**
2. **Residual Protein A Assay Kit from Primatech**
3. **CHO HCP Kit from Huzhou Shenke**
4. **Many mAbs and Assay Kits from AbMax Biotech**



1. **Difficult to have access to critical reagents**
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Core Technology

Ab=Antibody
Max-Speed & Quality



Immunogen Design
Proprietary Immunization

**Core
Technology**



Immunization finished in 14 days



High success rate in obtaining
neutralizing epitope



Monoclonal hybridomas in 2 weeks

A major player against Emerging Diseases

- 2020 COVID-19 in collaboration with Dir. Fu Gao, ex-Director of Chinese CDC
- 2019 ASFV in collaboration with Chinese Agr. Dept.
- 2016 Norovirus in collaboration with NIFDC
- 2008-2014 EV71, CA16, H1N1, New Bunya Virus, H7N9, Ebola in collaboration with Chinese CDC & NIFDC
- 2006 Rabies in collaboration with Chinese Agr. Dept. and NIFDC

Extensive Network with Vaccine Developers

- PCN mAbs to 18 serotypes in collaboration with CanSinoBio, Chengdu Inst.Biol., NIFDC, and Beijing CDC, sold to BE of India, SSI Diagnostica A/S, Lanzhou Inst. Biol., Zhifei, Walvax, Changchun Changsheng, etc
- Meningococcal A, C, Y, W135 mAbs, in collaboration with CanSinoBio, sold to Lanzhou Inst. Biol, Chengdu Inst.Biol., etc
 - EV71/CA6/CA10/CA16 mAbs and kits, in collaboration with Chinese CDC, Beijing Inst. Biol., and NIFDC, sold to Hualan Biol., Wuhan Inst. Biol., Taiwan ADMI, GenMall, HenYe Biol., Changchun BCHT, ZiFei Biol., Beijing HuaAn, etc.
 - Rabies mAbs and kits, in collaboration with Chinese Agr. Dept and NIFDC, sold to several developing countries, Liaoning ChenDa, Changchun BCHT, and many others.
 - HPV mAbs and kits, in collaboration with Shanghai Inst. Biol. And Walvax/Zerun, served Tiantan Biol. Beijing Inst. Biol., Dalian Hanxin, Wuxi SinosinBio, Health Guard Biol., BoVax, etc.
 - PT/PRN/FHA, DT, TT mAbs and kits, in collaboration with Changchun Changsheng, CanSinoBio and Hualan Biol., sold to many.

Related Publications

Ren WL, Sun H, Gao GF, Chen JX, Sun S, Zhao RQ, Gao G, Hu YL, Zhao G, Chen YX, Jin X, Fang F, Chen JG, Wang Q, Gong ST, Gao W, Sun YF, Su JC, He AL, Cheng X, Li M, Xia CX, **Li MH, L. Sun**. “A COVID-19 vaccine based on the spike S1 protein with a novel adjuvant induces high level of neutralizing responses in nonhuman primates” **Vaccine (2020) 38:5653-5658**.

R.Q. Zhao, **M.H.Li, et al., L.Sun**. “Early detection of SARS-CoV-2 antibodies in COVID-19 patients as a serologic marker of infection” **Clinical Infectious Diseases (2020) 71(16):2066-72**.

R.Q. Zhao, Y.Shan, et al. **L.Sun** “Novel strategy for expression and characterization of rabies virus glycoprotein” **Protein expression and purification (2020) 168:105567**.

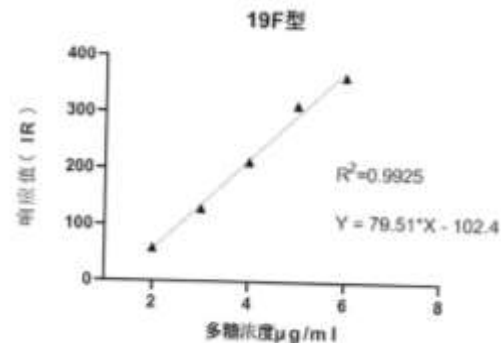
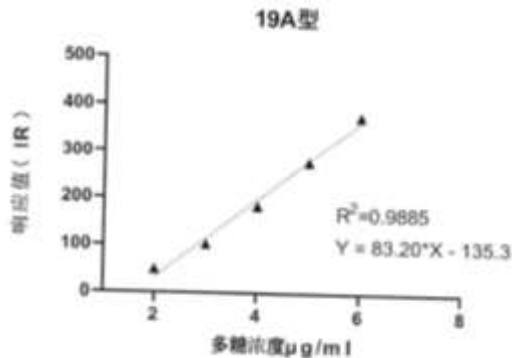
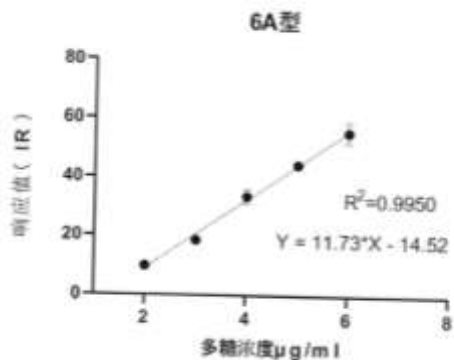
R.Q. Zhao, P.Yu, et al., **L.Sun**, “Rabies virus glycoprotein serology ELISA for measurement of neutralizing antibodies in sera of vaccinated human subjects” **Vaccine 37 (2019) 6060-6067**.

Feng Y, Wang MY, et al., Tu CC. “Evaluation of Monoclonal Antibody–Based Direct, Rapid Immunohistochemical Test for Rabies Diagnosis” **J Virol Methods (2018) 256: 12-16**.

M.H. Li , H.Z.Li ,et al., **L. Sun**. “A simple and cost-effective assay for measuring anti-drug antibody in human patients treated with Adalimumab” **J Immunol Methods (2018) 452:6-11**.

S.J.Ma, Q.Y.Mao, et al., **L.Sun**. “Development of a Sandwich ELISA for the Quantification of Enterovirus 71” **Cytotechnology(2014) 66:413-418**.

Pneumococcal Polysaccharides mAbs



Serotype	Sample	Value1	Vlaue2	Ave	Cross-reactivity
6A	6B(5ug/mL)	0.679	2.64	1.6595	3.70%
	0.9% NaCl	1.12	2.09	1.605	3.60%
	Mix-6A	1.23		1.23	2.80%
	6A(5ug/mL)	44.4	44.5	44.45	
19A	19F(5ug/mL)	1.41	1.15	1.28	0.50%
	Mix-19A	2.1	2.14	2.12	0.80%
	19A(5ug/mL)	279	276	277.5	
19F	19A(5ug/mL)	4.09	4.72	4.405	1.20%
	Mix-19F	2.58		2.58	0.70%
	19F(5ug/mL)	267	462	364.5	

Cat#	Name	Size	Application
05-0105B	Pneumococcal polysaccharides 3 mAb	1mg	Immunoturbidimetry
05-0109B	Pneumococcal polysaccharides 4 mAb	1mg	Immunoturbidimetry
05-0110B	Pneumococcal polysaccharides 5 mAb	1mg	Immunoturbidimetry
05-0106B	Pneumococcal polysaccharides 6A mAb	1mg	Immunoturbidimetry
05-0120B	Pneumococcal polysaccharides 6B mAb	1mg	Immunoturbidimetry
05-0134B	Pneumococcal polysaccharides 7F mAb	1mg	Immunoturbidimetry
05-0119B	Pneumococcal polysaccharides 9N mAb	1mg	Immunoturbidimetry
05-0118B	Pneumococcal polysaccharides 14 mAb	1mg	Immunoturbidimetry
05-0113B	Pneumococcal polysaccharides 18 mAb	1mg	Immunoturbidimetry

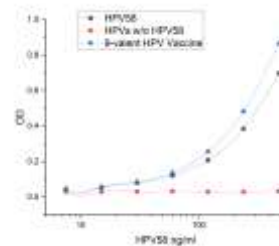
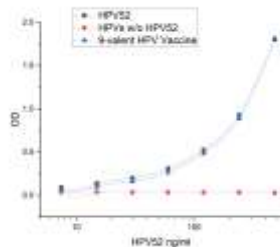
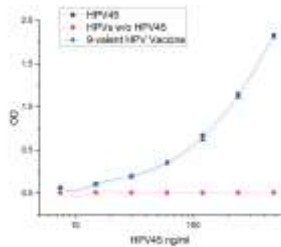
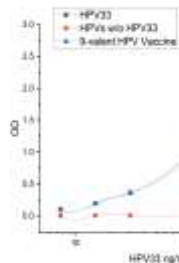
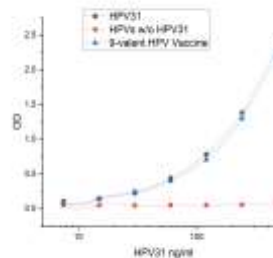
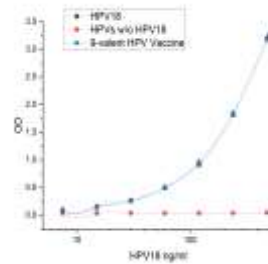
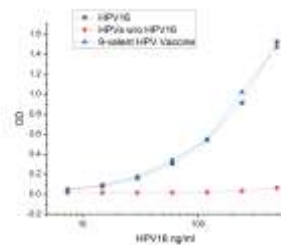
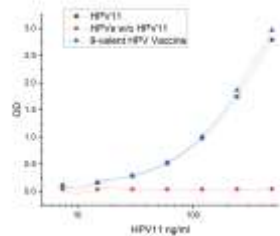
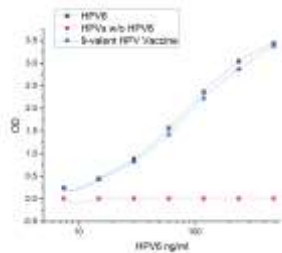
We have mAbs specific for 19 different PCV, and immunoturbidimetric assay-verified mAbs for 11 different PCV

HPV mAbs & Pairing

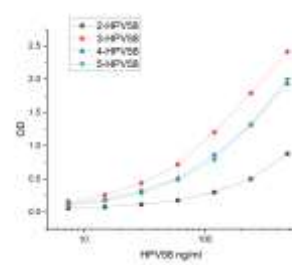
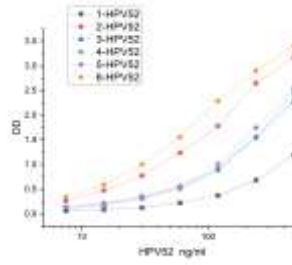
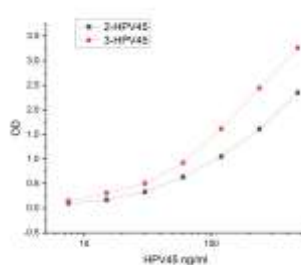
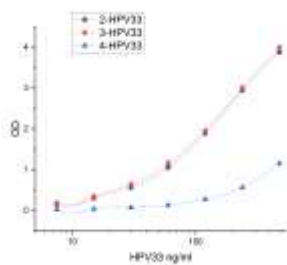
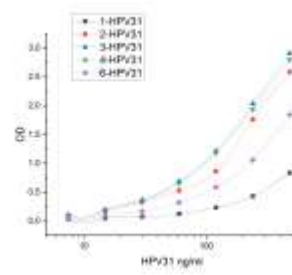
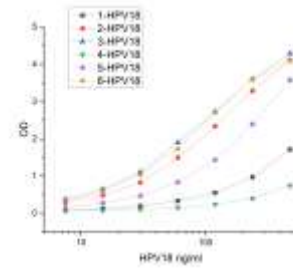
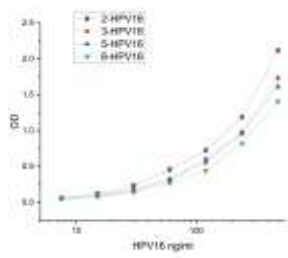
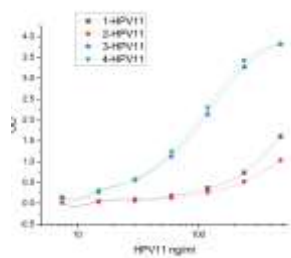
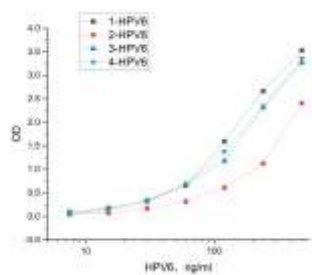
HPV	HPV positive	subtype-specific	Neutralizing
6	34	5	5 (1A2, 1E6, 1G11, 4G1, and 6H1)
11	37	13	6 (1D2, 1F9, 1B5, 2F8, 8H5, and 2G12,)
16	61	32	10 (2C3, 4H5, 5F6, 6G5, 9A12, 9B1, 11B10, 11F5, 11H10, and 12A2)
18	106	37	7 (4E8, 13C7, 14E9, 15E8, 16C6, 18B7, and 18G7)
31	41	10	5 (1F3, 2A3, 3G12, 6D10, and 7H9)
33	25	11	1 (12E1)
45	104	15	5(7E7, 11B11, 7A5, 11G1 and 7C12)
52	57	5	5 (6H3, 2B6, 3E7, 8D12, and 10D9)
58	166	17	11 (1D2, 3A3, 5B2, 5C10, 13A10, 14B9, 14E8, 16A10, 16F8, 17B12, and 17F6)

HPV	Pair-able		Final Selection
	Coating	HRP Conjugated	
6	1G11	1A2, 1E6, 4G1, 6H1	1G11, 1A2-HRP
	1E6	1A2, 1G11, 4G1, 6H1	
	4G1	1A2, 1E6, 1G11, 6H1	
	1A2	1E6, 4G1, 6H1, 1G11	
	6H1	1A2, 1E6, 4G1, 1G11	
11	1B5	1D2, 8H5, 5A6, 2G12	8H5, 1B5-HRP
	1D2	1B5, 8H5, 5A6, 2G12	
	8H5	1B5, 1D2, 5A6, 2G12	
	4A2	1B5, 1D2, 5A6, 8H5, 2G12	
	2F8	1B5, 1D2, 5A6, 8H5, 2G12	
	5C3	1B5, 1D2, 5A6, 8H5, 2G12	
16	4H5, 11F5, 5F6, 6G5, 11H10	11B10	6G5, 11B10-HRP
18	13C7	14E9, 15E8	13C7, 14E9-HRP
	18G7	14E9, 15E8	
	4E8	14E9	
31	2A3	7H9, 1F3, 3G12	2A3, 7H9-HRP
	7H9	3G12, 3A3, 1F3	
	1F3	3G12, 3A3, 7H9	
	3G12	7H9, 1F3	
33	120	11A4, 13B11, 8F10, 19D4	19D4, 8F10-HRP
	19D4	11A4, 13B11, 8F10, 12E1	
	11A4	8F10, 13B11, 12E1, 19D4	
	8F10	11A4, 13B11, 12E1, 19D4	
45	13B11	11A4, 8F10, 12E1, 19D4	7C12, 11G1-HRP
	7A5	7E7, 7C12, 10H6, 11G1	
	7E7	7A5, 7C12, 10H6, 11G1	
	7C12	7A5, 7E7, 10H6, 11G1	
	11G1	7A5, 7C12, 7E7, 10H6	
	10H6	7A5, 7C12, 7E7, 11G1	
52	2B6	6H3, 8D12	3E7, 2B6-HRP
	3E7	6H3, 8D12, 2B6	

HPV Potency Assays---Specificity



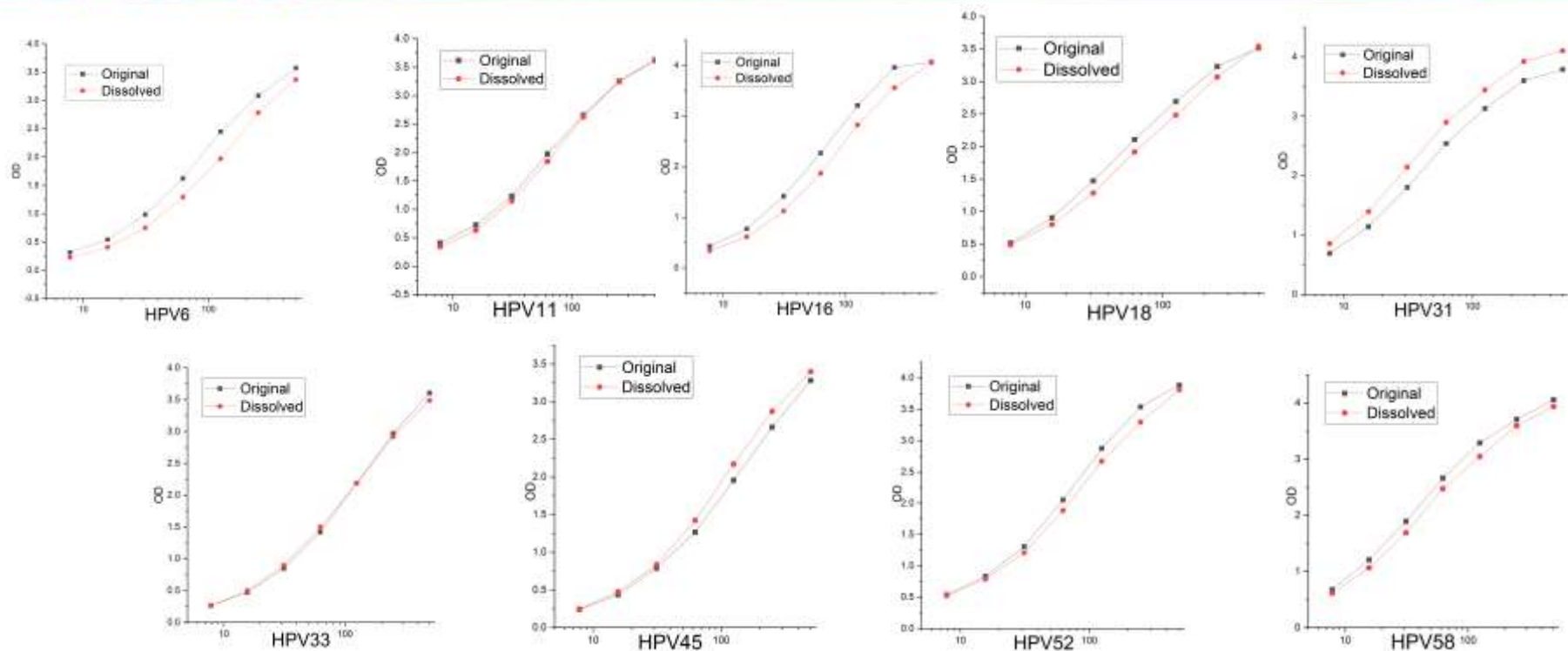
Detect HPV vaccines from different companies



HPV Potency Assays---Heat-sensitivity

	HPV6			HPV11			HPV16		
ng/mL	Un-Treated	Treated	Reducing Rate	Un-Treated	Treated	Reducing Rate	Un-Treated	Treated	Reducing Rate
240	2.097	0.027	98.71%	1.874	0.021	98.88%	1.549	0.035	97.74%
	HPV18			HPV31			HPV33		
ng/mL	Un-Treated	Treated	Reducing Rate	Un-Treated	Treated	Reducing Rate	Un-Treated	Treated	Reducing Rate
240	3.486	0.23	93.40%	2.233	0.165	92.61%	1.877	0.073	96.11%
	HPV45			HPV52			HPV58		
ng/mL	Un-Treated	Treated	Reducing Rate	Un-Treated	Treated	Reducing Rate	Un-Treated	Treated	Reducing Rate
240	1.469	0.12	91.83%	2.086	0.058	97.22%	0.491	0.045	90.84%

Dis-associate Adjuvant



Rabies Vaccine Related Products

Rabies 狂犬病毒

05-0019	Mouse anti-Rabies N-protein antibody, mAb 1	ELISA
05-0020	Mouse anti-Rabies N-protein antibody, mAb 2	ELISA
12-0020	Anti-Rabies N-protein antibody, mAb 2, FITC-Conjugated	IHC,ICC,ELISA
17-0009	Rabies Virus Quantitation Kit	Sandwich ELISA
17-0122	Rabies G Protein (PV, AG, CTN) Quantitation Kit	Sandwich ELISA
17-0129	Rabies G Protein (PM, CVS) Quantitation Kit	Sandwich ELISA
17-0124	Rabies Vaccine (PV, AG, CTN) in vitro Potency Assay	Sandwich ELISA
AK100H1	Recombinant Rabies virus Glycoprotein (CTN, 6His Tag)	ELISA
AK200M1	Mouse Rabies G-protein (PV, AG, CTN) antibody detection kit (ELISA)	ELISA
AK200H1	Human Rabies virus (PV, AG, CTN) neutralizing antibody detection kit (ELISA)	ELISA
/	Human Rabies virus neutralizing antibody detection (Colloidal Gold)	Colloidal Gold

HPV VZV Vaccine Related Products

HPV

17-0116	Human Papillomavirus HPV(6) in vitro Potency Assay	Sandwich ELISA
17-0117	Human Papillomavirus HPV(11) in vitro Potency Assay	Sandwich ELISA
17-0101	Human Papillomavirus HPV(16) in vitro Potency Assay	Sandwich ELISA
17-0102	Human Papillomavirus HPV(18) in vitro Potency Assay	Sandwich ELISA
17-0118	Human Papillomavirus HPV(31) in vitro Potency Assay	Sandwich ELISA
17-0119	Human Papillomavirus HPV(33) in vitro Potency Assay	Sandwich ELISA
17-0120	Human Papillomavirus HPV(45) in vitro Potency Assay	Sandwich ELISA
17-0103	Human Papillomavirus HPV(52) in vitro Potency Assay	Sandwich ELISA
17-0104	Human Papillomavirus HPV(58) in vitro Potency Assay	Sandwich ELISA

VZV 带状疱疹

05-0159	Mouse anti-VZV gE-protein antibody, mAb 1	ELISA
05-0168	Mouse anti-VZV gE-protein, mAb 2	ELISA
12-0115	Anti-VZV gE-protein,HRP-Conjugate	ELISA
12-0109	Anti-VZV gE-protein,Biotin-Conjugated	ELISA
17-0106	VZV Virus Quantitation Kit	Sandwich ELISA
17-0123	Rec. VZV gE protein Quantitation Kit	Sandwich ELISA
P20-0021	Recombinant VZV gE-protein, 6XHis Protein	ELISA
PDC117-0011	Human Anti-VZV gE Antibody Detection Kit	ELISA
PDC117-0012	Mouse Anti-Anti-VZV gE Antibody Detection Kit	ELISA
	VZV gE Antibody POCT	Colloidal Gold

HFMD RSV HSV Vaccine Related Products

HFMD手足口

05-0001	Mouse anti-EV71 antibody , mAb 1	Neut.,ELISA,WB,ICC
05-0142	Mouse anti-EV71 antibody, mAb 2	ELISA
/	Mouse anti-CA6 antibody	ELISA
/	Mouse anti-CA10 antibody	ELISA
17-0008	EV71 Virus ELISA Quantitation Kit	Sandwich ELISA

RSV-F重组蛋白

05-0200	Mouse Anti-RSV-F-protein mAb	ELISA
05-0239	Human Anti-RSV-F-protein mAb1	ELISA, Neut.
05-0240	Human Anti-RSV-F-protein mAb2	ELISA, Neut.
18-0028	Recombinant RSV-F-6xHis Protein	ELISA
PDC117-0016	Mouse Anti-RSV Antibody Assay Kit	ELISA
PDC117-0015	Human Anti-RSV Antibody Assay Kit	ELISA

18-0026	Recombinant HSV-gB-6xHis Protein	ELISA
18-0027	Recombinant HSV-gD-6xHis Protein	ELISA
12-0008	Anti-HSV Protein Antibody (Rabbit polyclonal IgG), HRP-Conjugated	ELISA

Pneumococcal Vaccine Related Products

05-0116	Mouse anti-Pneumococcal polysaccharide (1) antibody	Immunoturbidimetric,ELISA
05-0217	Mouse anti-Pneumococcal polysaccharide (2) antibody	ELISA
05-0105	Mouse anti-Pneumococcal polysaccharide (3) antibody	Immunoturbidimetric,ELISA
05-0109	Mouse anti-Pneumococcal polysaccharide (4) antibody	Immunoturbidimetric,ELISA
05-0110	Mouse anti-Pneumococcal polysaccharide (5) antibody	Immunoturbidimetric,ELISA
05-0106	Mouse anti-Pneumococcal polysaccharide (6A) antibody	Immunoturbidimetric,ELISA
05-0120	Mouse anti-Pneumococcal polysaccharide (6B) antibody	ELISA
05-0134	Mouse anti-Pneumococcal polysaccharide (7F) antibody	ELISA
05-0122	Mouse anti-Pneumococcal polysaccharide (8) antibody	Immunoturbidimetric,ELISA
05-0119	Mouse anti-Pneumococcal polysaccharide (9N) antibody	ELISA
05-0114	Mouse anti-Pneumococcal polysaccharide (9V) antibody	Immunoturbidimetric,ELISA
05-0220	Mouse anti-Pneumococcal polysaccharide (10A) antibody	ELISA
05-0123	Mouse anti-Pneumococcal polysaccharide (11A) antibody	ELISA
05-0118	Mouse anti-Pneumococcal polysaccharide (14) antibody	Immunoturbidimetric,ELISA
05-0124	Mouse anti-Pneumococcal polysaccharide (17F) antibody	Immunoturbidimetric,ELISA
05-0113	Mouse anti-Pneumococcal polysaccharide (18C) antibody	Immunoturbidimetric,ELISA
05-0108	Mouse anti-Pneumococcal polysaccharide (19A) antibody	Immunoturbidimetric,ELISA
05-0104	Mouse anti-Pneumococcal polysaccharide (19F) antibody	Immunoturbidimetric,ELISA
05-0151	Mouse anti-Pneumococcal polysaccharide (20) antibody	ELISA
05-0152	Mouse anti-Pneumococcal polysaccharide (23F) antibody	ELISA
05-0153	Mouse anti-Pneumococcal polysaccharide (33F) antibody	ELISA
coming soon	Mouse anti-Pneumococcal polysaccharide (12F,15B,22)	ELISA

Meningococcal TT DT PT Vaccine Related Products

05-0100	Mouse anti-Meningococcalpolysaccharide(A) antibody	ELISA
05-0101	Mouse anti-Meningococcalpolysaccharide(C)antibody	ELISA
05-0238	Mouse anti-Meningococcalpolysaccharide(W135) antibody	ELISA
05-0103	Mouse anti-Meningococcalpolysaccharide(Y) antibody	ELISA
05-0245	Mouse anti-Meningococcal Meningitis(B) fHbp-1.13 antibody	ELISA
05-0246	Mouse anti-Meningococcal Meningitis(B) fHbp-2.19 antibody	ELISA
05-0247	Mouse anti-Meningococcal Meningitis(B) fHbp-2.16/2.18/2.19/2.405/3.31 antibody	ELISA
05-0248	Mouse anti-Meningococcal Meningitis(B) fHbp-3.31antibody	ELISA
05-0249	Mouse anti-Meningococcal Meningitis(B) fHbp-2.405antibody	ELISA
05-0250	Mouse anti-Meningococcal Meningitis(B) fHbp antibody	ELISA
05-0251	Mouse anti-Meningococcal Meningitis(B) NHBA-503/697 antibody	ELISA
05-0252	Mouse anti-Meningococcal Meningitis(B) NHBA-688 antibody	ELISA
05-0253	Mouse anti-Meningococcal Meningitis(B) NHBA antibody	ELISA
05-0254	Mouse anti-Meningococcal Meningitis(B) ProA antibody	ELISA
05-0255	Mouse anti-Meningococcal Meningitis(B) ProB antibody	ELISA
05-0125	Mouse anti-CRM197 antibody	ELISA
05-0169	Mouse anti-TT antibody	ELISA
17-0107	TT Quantitation Kit(ELISA)	Sandwich ELISA
17-0100	Pertussis Vaccine (ACT) Quantitation Kit	Sandwich ELISA
17-0091	Pertussis Vaccine (PT) Quantitation Kit II (pAb-mAb)	Sandwich ELISA
17-0092	Pertussis Vaccine (FHA) Quantitation Kit II (pAb-mAb)	Sandwich ELISA
17-0093	Pertussis Vaccine (PRN) Quantitation Kit II (pAb-mAb)	Sandwich ELISA
17-0036	Pertussis Vaccine (FHA) Quantitation Kit (mAb-mAb)	Sandwich ELISA
17-0037	Pertussis Vaccine (PRN) Quantitation Kit (mAb-mAb)	Sandwich ELISA



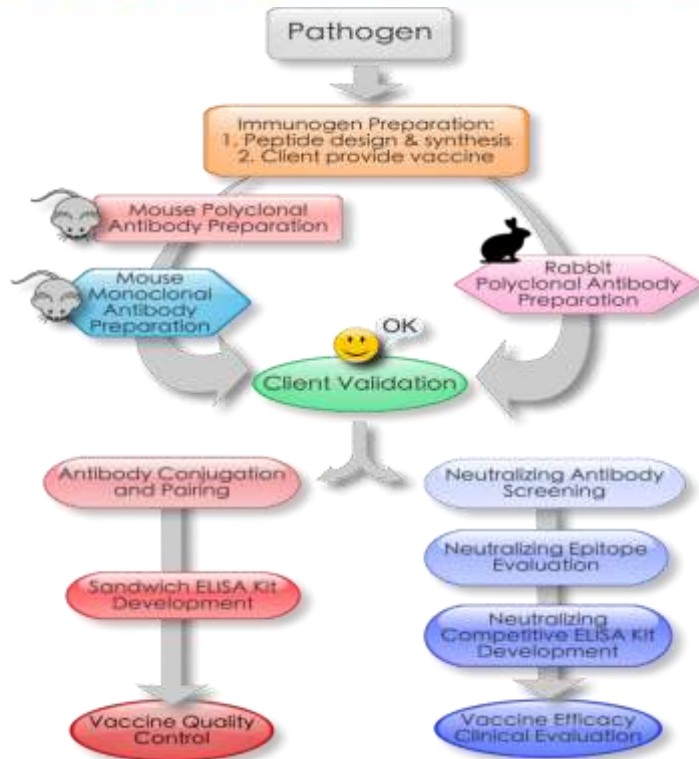
1. **Difficult to have access to critical reagents**
2. **Collaborations of NIFDC with reagents companies & vaccine developers**
3. **Lists of critical reagents developed by AbMax**
4. **Capacity available to develop and manufacture critical reagents**

IP Protection

We will treat customer's info confidentially

1. Confidential Agreement
2. Service Agreement
3. Material Transfer Agreement
4. Employment Agreement

mAbs and Assay Kits for Vaccines



1. Ma SJ., Mao QY., Liang ZL. Zhang CJ., Yang WX., Sun Z., Zhang HJ., Shen XL., Bi SL, Sun L. "Development of a Sandwich ELISA for the Quantification of Enterovirus 71" *Cytotechnology* (2014) 66:413-418
2. Shen L., Gu Y., Sun L., Yang Y., Wang F., Li Y and Bi S. "Development of a hepatitis delta virus antibody assay for study of the prevalence of HDV among individuals infected with hepatitis B virus in China." *J Med Virol.* 2012 Mar;84(3):445-9
3. Li X, Mao C, Ma S, Wang X, Sun Z, Yi Y, Guo M, Shen X, Sun L, Bi S. "Generation of neutralizing monoclonal antibodies against Enterovirus 71 using synthetic peptides." *BBRC* 2009 Dec 25;390(4):1126-8.

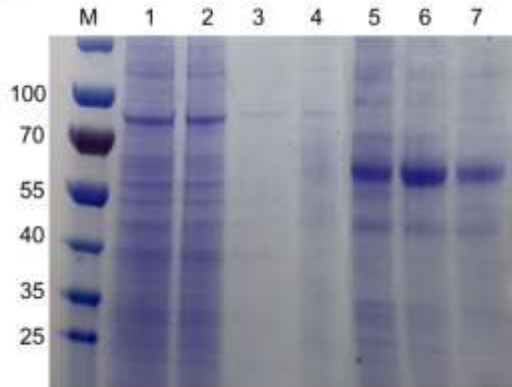
Increased Expression Level of Virus G Protein By 1000-fold

A

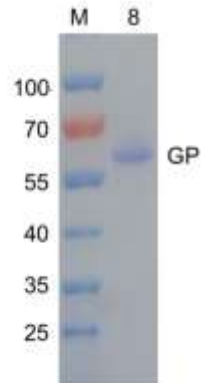
Signal peptide from RABV GP: MIPQALLFVPLLVFPLCFGK

Signal peptide from human IgG: MELGLSWVFLVAILEGVQCE

B



C



“Novel strategy for expression and characterization of rabies virus glycoprotein” 2020 Protein Expression & Purification

Development of ELISA assay for monitoring vaccination



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Rabies virus glycoprotein serology ELISA for measurement of neutralizing antibodies in sera of vaccinated human subjects

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ABSTRACT

Background

Vaccination provides protection against infection by inducing VNAs mainly against RABV surface GP. The measurement of VNAs to RABV is commonly used to assess the level of immunity in humans and animals after vaccination. A VNA titer of ≥ 0.5 IU/mL of sera indicates adequate response to vaccination. Here, we report the development and validation of a RABV GP serology ELISA kit for semi-quantitative measurement of VNA titers in sera of vaccinated human subjects.

Methods

Using a recombinant RABV GP expressed in mammalian cells as the capture antigen, the ELISA method was established using HuMAb NMS7 reference initially and HRIG reference subsequently. The limit of detection (LOD), linear range, reproducibility, and precision of the method were examined. Specificity and sensitivity were established to assess the diagnostic accuracy.

In collaboration with Chinese CDC, Beijing/Shanghai/ Zhejiang CDCs and many hospitals.

Quality Management System

- Obtained the ISO9001:2008 Quality Management System Certificate in 2009
- Since 2018, AbMax has established the Quality Management System of ISO/IEC 17025.
- Currently, the CNAS application is in progress, it is expected to be certified at the beginning of 2020.

Manufacturing Capacity

- Ab Production: Bio-reactor (3L), Shakers (200-1000ml) and Ascites, up to 200X100mg runs/year and 50X1g runs/year
- Purification: Protein A/G, open columns and AKAT
- Formulation: 10 mM Tris-glycine-HCl or PB buffer, with 20% glycerol
- Packaging: Sterilization and aseptic vialing (0.1- 10 ml)
- Kits manufacturing: automated plate coating, washing, etc.

International Shipping & Handling

- Shipping: 4 C or Room temperature with blue-ice packs, dry-ice.
- Most of products developed by AbMax can be shipped at 4 C or room temperature by FedEx, which can reduce the S&H costs by 80%, and simplify the import/export procedures
- International clients from USA, Europe, India, South Korea, South-Asia, South-America, etc.



Storages & Shelf-lives

- For hybridoma cells: liquid-N tanks (6) & -80 Freezers (3) on site, and duplicate vials stored at sites of collaborators. Variable regions of the key hybridomas were cloned and sequenced. Some of them have filed patent protection.
- For purified antibodies: -20 Freezers. Up to 5 years.

Prices

- AbMax's mAbs: \$400/mg for 1-10mg, \$200/mg for order >10mg
- AbMax's Glycoproteins: 1mg/\$1500
- AbMax's Sandwich ELISA kits: \$350/kit for 1-10 kits, \$280/kit for order >10 kits
- Contract production of mAb: 10mg Batch/Ascites-\$200/Bioreactor-\$400
- Contract expression & production of viral glycoproteins: 5mg/\$5000

Thanks !

1. Groups of Drs. Youchun Wang, Yuehua Li, Zhenglun Liang, etc from NIFDC
2. Beijing/Shanghai/Chendu of CNBG
3. Liaoning Chenda, Immunopath, Hualan Biol., Changchun Baike , etc

1. BM Gates Foundations
2. Beijing Sci. & Tech. Commission
3. Tianjin Binhai Development Zone



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