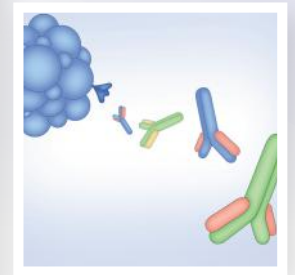
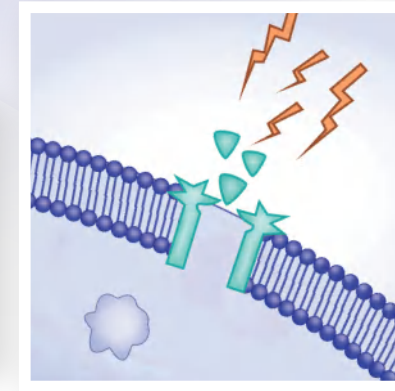
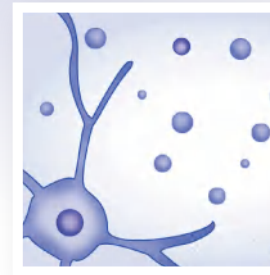


# EastMabBio

Manufacturing High-quality Recombinant Protein Raw Materials For The World.



江苏东抗生物医药科技有限公司  
Jiangsu East-Mab Biomedical Technology Co., Ltd

 Nantong/Suzhou/Beijing, China

 [marketing@eastmabbio.com](mailto:marketing@eastmabbio.com)

 [www.eastmabbio.com](http://www.eastmabbio.com)

Jiangsu East-Mab Biochemical Technology Co.,Ltd.

Manufacturing High-quality Recombinant Protein Raw Materials For The World.

## ABOUT US

Jiangsu East-Mab Biomedical Technology Co., Ltd. (East-Mab Bio for short) was established in 2016, starting from the R & D of antibody drugs, then shifted to manufacturer high-quality recombinant protein raw materials in 2019. The company currently has a professional team of more than 100 people led by a number of PhDs and industry veterans, and has invested nearly \$ 15million to build a leading recombinant protein R & D and production platform.

## Main Products

### Cell Culture Proteins (GMP Grade)

- Product** Cytokines, Growth factors, Transferrin/Fetuin, etc.
  - Advantages** Low endotoxin, Large-scale production, Inter-batch stabilization
- Built deep cooperation with dozens of leading cell culture medium, CGT therapy, organoid and cell-cultivated meat enterprises.

### IVD Diagnostic Proteins

- Product**
    - Antigens and antibodies: Respiratory series, infectious disease series, gastrointestinal series, etc.
    - General purpose excipients: blocking agents, Anti-Human IgM-mAb, Protein A, Chicken IgY, etc.
  - Advantages** High sensitivity, Rapid response, Excellent specificity, Inter-batch stabilization
- Served more than 2 billion disease detections in Europe and North America.

### Medical & Diagnostic Enzymes

- Product** LAMP / RPA, CRISPR Enzymes, DNase
  - Advantages** Excellent bioactivity, Large-scale production, Inter-batch stabilization
- One of the few domestic enterprises that can supply on a large scale.

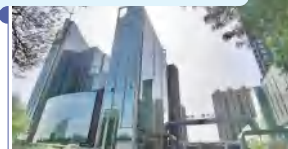
#### Nan Tong



#### Su Zhou



#### Bei Jing



## COMPANY BRIEF

### Strong Production Capability



Over 10,000 m<sup>2</sup> of R & D & production space.

4000 m<sup>2</sup> of GMP standard workshop.

Up to 1000L prokaryotic and 500L eukaryotic fermenters.

More than 60 units industrial grade shaker.

### Best-in-class Technology Platform

#### Structural modification

- Virtual Screening and AI Design
- Enzyme Directed Evolution and Rational Design
- Antibody Structure Simulation and Optimization
- Cytokines Sequence Optimization

#### Recombinant expression

- CHO Cell
- HEK293 Cell
- E. coli
- Yeast Cell

#### Production of rawmaterial

- High Density and Expression Fermentation
- High Efficiency Separation and Purification
- Protein Formulation Screening
- Freeze-drying Process

#### Application Platforms

- IVD Diagnostic
- Medical Enzymes
- CGT
- Organoid

### Strict Quality Control System



GMP level quality management system. Several ISO system certifications have been awarded.



Advanced testing instruments and equipments.

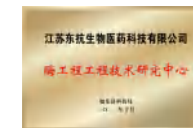
### Honor And Qualification



National High-tech Enterprise



ECACC Bailout NO.85051005 (CHO-K1)



Enzyme Engineering Technology Research Center



CAU - East Mab Joint Laboratory

## Cytokines & Growth Factors

### Interleukins

Name	Cat#
IL-1a	Y01901
IL-2	Y02001
IL3 (hFc Tag)	Y02103
IL-4	Y02201
IL-6	Y02301
IL-7	Y02401
IL-12	Y04001
IL-13	Y06501
IL-15	Y02701
IL-18	Y02801
IL-21	Y02901
IL-23	Y05001
IL-29	Y05201
OSM	Y05101

### FGFs

Name	Cat#
FGF2/bFGF	Y00321
FGF2/bFGF	Y00332
FGF4	Y00901
FGF7/KGF	Y05901
FGF9	Y01001
FGF10/KGF2	Y01101

### TGFs

Name	Cat#
ActivinA	Y00101
BMP-7	Y00601
TGF 1	Y04201
TGF 2	Y07801
TGF 3	Y07901

### VEGFs

Name	Cat#
VEGF165	Y04701
VEGF165 (His Tag)	Y04702
VEGF121	Y026B01

### IFNs

Name	Cat#
IFN	Y01801
IFN 2b	Y06301

### IGFs

Name	Cat#
LR3-IGF-1	Y03101

### CSFs

Name	Cat#
GM-CSF	Y01501

### TNFs

Name	Cat#
RANKL	Y07101
TNF	Y04401
sCD40L	Y03701

## Others

Name	Cat#
BDNF	Y00201
DKK1	Y00701
EGF	Y00801
EPO	Y05801
FetuinA	Y07501
Fibronectin(FN)	Y01301
FLT-3L	Y01201
Heregulin -1(NRG1)	Y01601
HGF	Y01701
LIF	Y03001
Noggin	Y03301
PDGF-BB	Y03401
Prolactin	Y03201
R-Spondin 1	Y03501
SCF	Y03801
Tissue Factor	Y04301
Transferrin	Y04501
Vitronectin (VTN)	Y04801
Anti-Human CD3 mAb	C00404
Anti-Human CD28 mAb	C02302
Anti-Human CD16 mAb	C02402

## IVD Diagnostic Proteins

### Respiratory Series

#### Influenza A

Name	Cat#
Influenza A Nucleocapsid Protein	A99901
Flu A-mAb	C01907
	C01908
Humanized Flu A-mAb	C010201

#### Influenza B

Name	Cat#
Influenza B Nucleocapsid Protein	A99801
Flu B-mAb	C01911
	C01912
Humanized Flu B-mAb	C010301

#### RSV

Name	Cat#
Recombinant RSV FO	A00901
RSV-mAb	C02703
	C02704
Humanized RSV-mAb	C02705

#### Parainfluenza Virus

Name	Cat#
Humanized HPIV1-mAb	C010601
HPIV1 Nucleocapsid Protein	A06104
	C06201
HPIV1-mAb	C06202
	C06202
Humanized HPIV2-mAb	C010602
	C010602
HPIV2 Nucleocapsid Protein	A06105
	C06204
HPIV2-mAb	C06205
	C06205
Humanized HPIV3-mAb	C010603
HPIV3 Nucleocapsid Protein	A06103-01
	C06203
HPIV3-mAb	C06203
	C06201

#### Adenovirus

Name	Cat#
Recombinant AdV HEXON	A02801
AdV-mAb	C05302
	C05303
Humanized AdV-mAb	C05305

### Tumor and Hormone Series

#### IDH1

Name	Cat#
IDH1-mAb	C08301
	C08302

#### AFP

Name	Cat#
AFP-mAb	C08401
	C08402

#### CA19-9

Name	Cat#
CA19-9-mAb	C08501
	C08502

#### CYFRA21

Name	Cat#
CYFRA21-mAb	C08601
	C08602
	C08603

#### CA125

Name	Cat#
CA125-mAb	C08701
	C08702

#### CA724

Name	Cat#
CA724-mAb	C08801
	C08802

#### CEA

Name	Cat#
CEA-mAb	C08901
	C08902

**VEGF**

Name	Cat#
VEGF Antigen	Y02602
VEGF-mAb	C00907
	C00908
	C00909

**PRL**

Name	Cat#
PRL Antigen	Y03202
PRL-mAb	C05201
	C05202
	C05203
	C05204

**Digestive Tract Series**

**H.pylori**

Name	Cat#
HP-mAb	C03010
	C03011
	C03003
	C03004
HP Natural Antigen	A99705
Ure A Antigen	A99701
Ure B Antigen	A99702
Cag A	A99704

**Rotavirus**

Name	Cat#
Rotavirus-mAb	C02601
	C02602
Humanized RV-mAb	C020201
RV VP6 Antigen	A99401

**FOB**

Name	Cat#
FOB-mAb	C02801
	C02802

**Transferrin**

Name	Cat#
Transferrin-mAb	C05501
	C05502
Transferrin-Antigen	Y04501

**Gastric Function Series**

**PG**

Name	Cat#
PGI-Antigen	A08001
PGI-mAb	C08001
	C08002
PGII-Antigen	A08101
PGII-mAb	C08101
	C08102

**G17**

Name	Cat#
G17-Antigen	A09101
G17-mAb	C09101
	C09102

**Inflammation Series**

**PCT**

Name	Cat#
PCT Antigen	A01401

**SAA**

Name	Cat#
SAA Antigen	A99201
SAA-mAb	C03101
	C03102

**IL-6**

Name	Cat#
IL-6 Antigen	Y02301
IL-6-mAb	C00503
	C00504

**HBP**

Name	Cat#
HBP Antigen	A01301
HBP-mAb	C06001
	C06002

**Diabetes Series**

**HbA1c**

Name	Cat#
HbA1c-mAb	C03803

## Cardiovascular Series

### cTnl

Name	Cat#
cTnl-mAb	C04705
	C04706

### MYO

Name	Cat#
Myo Antigen	A99604
Myo-mAb	C03601
	C03604

### CKMB

Name	Cat#
CKMB Antigen	A99603
CKMB-mAb	C05401
	C05402

### D-Dimer

Name	Cat#
D-Dimer-mAb	C05601
	C05602

### NT-proBNP

Name	Cat#
NT-proBNP Antigen	A05701-01
NT-proBNP-mAb	C05702
	C05703

### ST-2

Name	Cat#
ST2 Antigen	A05801
ST2-mAb	C05801
	C05802

### S100 $\beta$

Name	Cat#
S100 $\beta$ Antigen	A05901
S100 $\beta$ -mAb	C05901
	C05902

## Bone Metabolism

### 25-Hydroxyvitamin D

Name	Cat#
25-OH VD mAb	C150101
	C150102

## Infectious Disease Series

### MPXV

Name	Cat#
Recombinant MPXV M1R	A05105-10
Recombinant MPXV B6R	A05106-10
Recombinant MPXV A29L	A05107-10
Recombinant MPXV E8L	A05108-10
Recombinant MPXV A30L	A05109-10
Recombinant MPXV A35R	A05111-10
	C05115
	C05116
MPXV M1R-mAb	C05117
	C05137
	C05138
MPXVA29L-mAb	C05139
	C05139
Recombinant Variola virus L1	A05101-10
Recombinant Variola virus A27L	A05107-14

### HPV

Name	Cat#
HPV 18-L1-Antigen	A06301
HPV 16-L1-Antigen	A06302

### Other Infectious Disease

Name	Cat#
Zika virus E Protein	A02902
Yellow fever virus NS1	A03001
Yellow fever virus E Protein	A03002
WNV E Protein	A03102
JEV NS1(His Tag)	A03201
JEV E Protein	A03202

### Malaria

Name	Cat#
Mala Pf-mAb	C03401
	C03402
Mala Pv-mAb	C03403
	C03404
Mala pan-mAb	C03405
	C03406
Vivax malaria specific lactate dehydrogenase-Antigen	A99501

### Dengue Virus

Name	Cat#
DENV1 NS1	A00201
DENV2 NS1	A00202
DENV3 NS1	A00203
DENV4 NS1	A00204
DENV1 E Protein	A00205
DENV2 E Protein	A00206
DENV3 E Protein	A00207
DENV4 E Protein	A00208

### HIV

Name	Cat#
HIV-gp24 Antigen	A00705

### Candida Albicans

Name	Cat#
Candida Albicans mAb	C09301
	C09302

## Drug Detection Series

### Drug Detection

Name	Cat#
Synthetic Cannabinoid K2-mAb	C03701
Tetrahydrocannabino (THC)-mAb	A03402
Benzodiazepines (BZO)-mAb	C02901
Ethyl glucuronide(ETG)-mAb	C02501
Fentanyl (FEN)-mAb	C03301

## Animal Disease Series

### ASFV

Name	Cat#
ASFV p30 (HSA Tag)	A01004-3
ASFV p30 (GST Tag)	A01004-2
ASFV p54 (mFc Tag)	A01006-1
ASFV p72 (His Tag)	A01007-1

### Cat Disease Series

Name	Cat#
FeLV P27 (His Tag)	A01901
FHV-1 gD (His Tag)	A02401

## General Tool Materials Series

### Blocker, RBC, Second Ab...

Name	Cat#
Blocker	C04001
	C04002
	C04003
	C04004
Anti Erythrocyte Antibody	C04501
Goat anti Mouse IgG	C10001
Chicken IgY	C10002
Goat anti-Chicken IgY	C10003
DNP-mAb	C04601
DNP-BSA Antigen	A04501
Anti-Human IgM-mAb	C01203
His Tag-Antibody	C04401
Anti-human IgG-mAb	C01206



## Medical & Diagnostic Enzymes

### Isothermal Amplification Kits

Name	Cat#
EMA Kit (Liquid)	EA0101
EMA Exo Kit (Liquid)	EA0103
EMA Nfo Kit (Liquid)	EA0105
RT-EMA Kit (Liquid)	EA0102
RT-EMA Exo Kit (Liquid)	EA0104
RT-EMA Nfo Kit (Liquid)	EA0106
EMA Kit (Lyophilized)	EA0111
EMA Exo Kit (Lyophilized)	EA0113
EMA Nfo Kit (Lyophilized)	EA0115
RT-EMA Kit (Lyophilized)	EA0112
RT-EMA Exo Kit (Lyophilized)	EA0114
RT-EMA Nfo Kit (Lyophilized)	EA0116
RT-EMA Nfo Kit for PPLO (Liquid)	EA0109
LAMP Colorimetric Master Mix (Red to Yellow)	EA0201
LAMP Fluorescent Master Mix (Liquid)	EA0202
RT-LAMP Colorimetric Master Mix (Red to Yellow)	EA0204
RT-LAMP Fluorescent Master Mix (Liquid)	EA0205
Rapid Extraction and Lamp-Test Kit for ASFV (Liquid)	EA0203

### Related Products

Name	Cat#
Bsu DNA Polymerase	EB0106
Bst DNA Polymerase	EB0201
UvsX Recombinase	EB0109
UvsY Protein	EB0111
Single Strand DNA-binding Protein	EB0112
M-MLV Reverse Transcriptase	EB0118
Exonuclease III	EB0116
LbCas12a	EB0502
LwaCas13a	EB0506
Uracil-DNA Glycosylase	EB0302
Pyrophosphatase, Inorganic	EB0404
Taq DNA Polymerase Antibody v1.0	C04201V1

## Related Products

Name	Cat#
Taq DNA Polymerase Antibody v2.0	C04201V2
DNA Sample Release Reagent	EC0203
Nucleic Acid Lateral Flow Strip	EA0117
Dualplex Nucleic Acid Lateral Flow Strip	EA0118

# Y07501 Recombinant Human Fetuin A

Fetuin A binds with a plethora of receptors and exhibits multifaceted physiological and pathological functions. It is involved in the regulation of calcium metabolism, osteogenesis, and the insulin signaling pathway. It also acts as an ectopic calcification inhibitor, protease inhibitor, inflammatory mediator, anti-inflammatory partner, atherogenic factor, and adipogenic factor, among other several moonlighting functions.



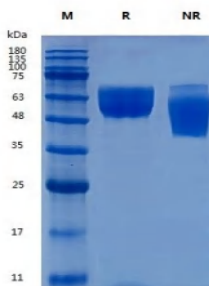
**Source:** Human Species  
**Tag:** Tag Free  
**Expression Host:** CHO

**Purity:**  $\geq 95\%$   
**Endotoxin:**  $\leq 0.5$  EU/mg  
**Activity:** (ED<sub>50</sub>) 50–200  $\mu\text{g}/\text{mL}$

## Data



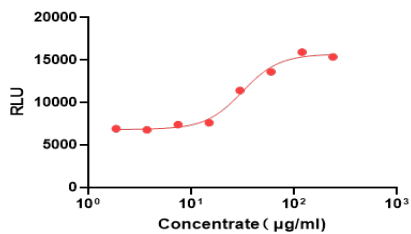
### 01 SDS-PAGE



The gel was stained with Y07501 SDS-PAGE.



## 02 Bioactivity



The ED<sub>50</sub> for this effect is 50-200 µg/mL.

# Y04501 Recombinant Human Transferrin

The function of this protein is to transport iron from the intestine, reticuloendothelial system, and liver parenchymal cells to all proliferating cells in the body. This protein may also have a physiologic role as granulocyte/pollen-binding protein (GPBP) involved in the removal of certain organic matter and allergens from serum.



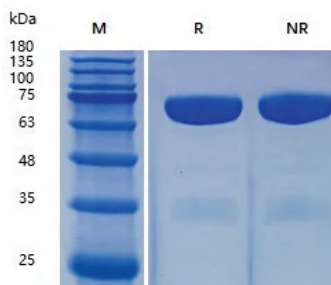
**Source:** Human Species  
**Tag:** Tag Free  
**Expression Host:** CHO

**Purity:** ≥95%  
**Endotoxin:** ≤0.5 EU/mg  
**Activity:** (ED<sub>50</sub>) 0.5-2 µg/mL

## Data



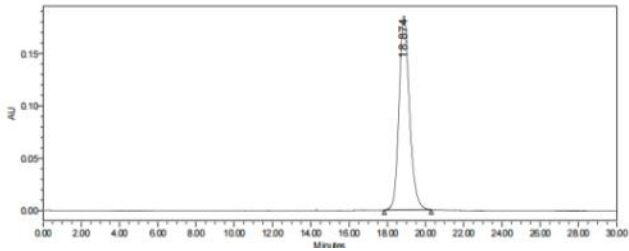
### 01 SDS-PAGE



The gel was stained with Y04501 SDS-PAGE.



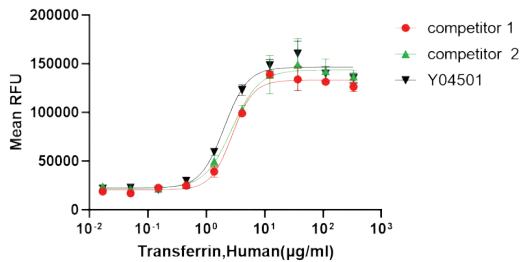
## 02 SEC-HPLC



Typical chromatogram of SEC-HPLC.



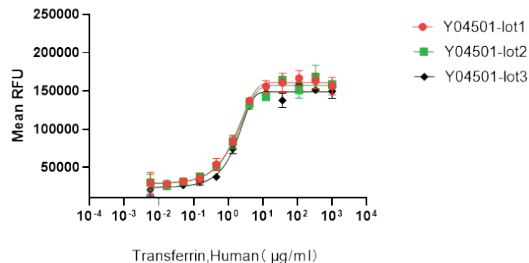
## 03 Performance Comparison



The ED<sub>50</sub> for this effect is 0.5–2 µg/mL. The activity of Y04501 was higher than other competing products.



## 04 Batch Consistency



Highly consistent bioactivity between different production batches of Y04501.

# Y02001 Recombinant Human IL-2

IL-2 is a pleiotropic cytokine with immunostimulatory or immunoinhibitory activity depending on the target cell. Above all, IL-2 stands out as a well-established regulator of T cell development and homeostasis.



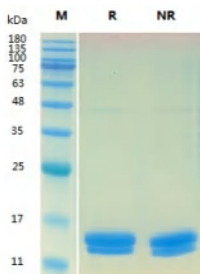
**Source:** Human Species  
**Tag:** Tag Free  
**Expression Host:** CHO

**Purity:**  $\geq 95\%$   
**Endotoxin:**  $\leq 0.5$  EU/mg  
**Activity:**  $\geq 1 \times 10^7$  IU/mg

## Data



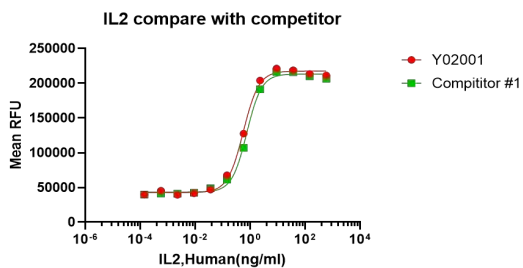
### 01 SDS-PAGE



The gel was stained with Y02001 SDS-PAGE.



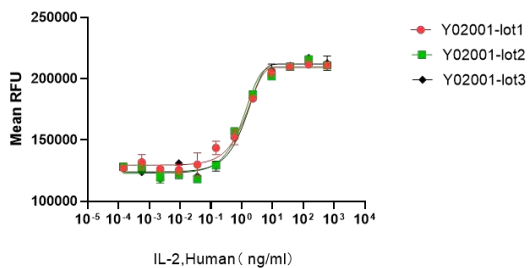
## 02 Performance Comparison



The specific activity of Y02001 is  $\geq 1 \times 10^7$  IU/mg.



## 03 Batch Consistency



Highly consistent bioactivity between different production batches of Y02001.



## Fecal Occult Blood ( OEM Test ) ( Colloidal Gold Method)

Fecal Occult Blood referred to as FOB, refers to a small amount of bleeding in the digestive tract, red blood cells are digested and broken, no abnormal changes in fecal appearance, and can not be confirmed by eyes and microscope. Usually this small amount of nonsignificant gastrointestinal bleeding is normal stool color, and because there is no obvious symptoms of discomfort, it is not easy to be found by patients, but it is indeed an important manifestation of organic lesions of the digestive tract. Therefore, if the fecal occult blood can be detected in time, the organic lesions of the digestive tract can be detected early.



### Advantages of Our FOB Product



**High compliance rate**



**Rapid response**



**Excellent specificity**

### Raw materials

Product Name	Cat#	Type	Applicable platforms
FOB-mAb	C02801	Antibody	LF CLIA
	C02802		
(FOB) Fecal Occult blood rapid test uncut sheet (colloidal gold method)	FOB01	Specifications can be customized	

## Results of FOB antibody raw material verification

### Test for human hemoglobin



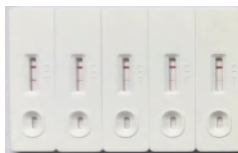
On the LF platform, the T-line signal values of different concentrations of human hemoglobin quality control products showed obvious gradient changes.

### Test for Porcine hemoglobin, Bovine hemoglobin, Chicken hemoglobin, Sheep hemoglobin, Rabbit hemoglobin and Horseradish peroxidase



The results of LF test showed that the antibody did not cross or interfere with Pig hemoglobin, Bovine hemoglobin, Chicken hemoglobin, Sheep hemoglobin and rabbit hemoglobin at the concentration of 500µg/mL, Horseradish peroxidase at the concentration of 2mg/mL.

### Test for positive samples



Test positive samples, all of which showed positive results.

### Test for negative samples



Test negative samples, all of which showed negative results.

## Helicobacter Pylori (OEM Test) (Colloidal Gold Method)

Helicobacter pylori abbreviated as HP, Gram-negative, the bacterial body is curved, S-shaped or spiral, flagellated, active is a spiral, micro-anaerobic, very demanding growth conditions of the bacterial survival in the stomach and the duodenum of the various regions of the stomach and the duodenum will cause gastric mucosal inflammation of the gastric mucosa, resulting in gastric and duodenal ulcers and gastric cancer, is known to be the only microorganisms capable of surviving in human gastric species, is the world's Health Organization, international Agency for Research on Cancer, classified as a class of carcinogens.



### Advantages of Our HP products



**High sensitivity**  
up to 1ng/mL



**Rapid response**  
Results in 15min



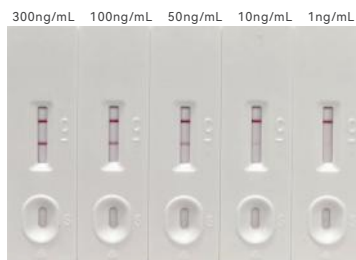
**Excellent specificity**  
No cross-reaction

### Raw materials

Product Name	Cat#	Type	Applicable platforms
HP Natural Antigen	A99705	Antigen	LF
Ure A Antigen	A99701		
Ure B Antigen	A99702		
CagA	A99704		
HP-mAb	C03003	Antibody	LF CLIA
	C03004		
(HP)Helicobacter Pylori antigen rapid test uncut sheet (colloidal gold method)	HP01	Specifications can be customized	

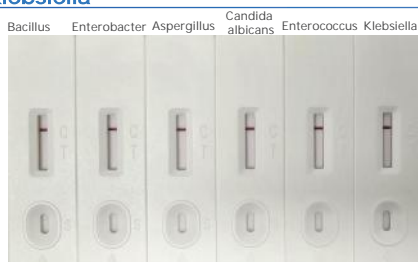
## Results of HP antibody raw material verification

### Test for natural antigen



On the LF platform, the T-line signal values showed a significant gradient change, and the sensitivity of natural antigen detection could reach 1ng/mL.

### Measurement of Bacillus, Enterobacter, Aspergillus, Candida albicans, Enterococcus and Klebsiella



Chromatography platform cross-reactivity tests showed that the antibody pairs did not cross-react with concentrations of  $1 \times 10^7$  TCID<sub>50</sub>/mL of Bacillus, Enterobacter, Proteus, Candida albicans, Enterococcus and Klebsiella.

### Test for positive samples



Positive samples were tested and all showed positive results with good color development.

### Test for negative samples



Test negative samples, all of which showed negative results.

## Influenza Virus ( OEM Test ) (Colloidal Gold Method)

Influenza(the flu) is a common acute respiratory infection caused by influenza virus, which is more common in winter and spring. There are three types of influenza viruses: influenza A (FluA) viruses, influenza B (FluB) viruses and influenza C (FluC) viruses. Among them, Influenza A is particularly prone to mutation, can infect people and a variety of animals, and is the main pathogen of human influenza, often causing pandemics and small and medium-sized epidemics. Influenza B viruses mutate less and cause outbreaks or small epidemics.



### Advantages of Our Flu Product



**High sensitivity**



**Excellent specificity**



**Rapid response**

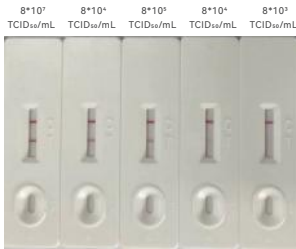
### Raw materials

Product Name	Cat#	Type	Applicable platforms
Flu A-mAb	C01907	Antibody	LF CLIA
	C01908		
Flu B-mAb	C01911		
	C01912		
Influenza A Nucleocapsid Protein	A99901	Recombinant Antigen	Can be used as a control material
Influenza B Nucleocapsid Protein	A99801		
Humanized Flu A-mAb	C010201	Humanized IgM	
Humanized Flu B-mAb	C010301		
Influenza A antigen rapid test uncut sheet (colloidal gold method)	FA01	Specifications can be customized	
Influenza B antigen rapid test uncut sheet (colloidal gold method)	FB01		

## Results of Flu raw material verification

## 01 Result of antibody raw material for Influenza A verification

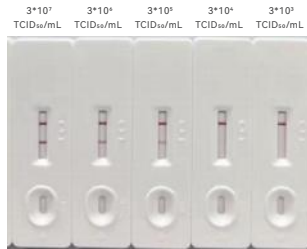
## ④ Test for Influenza A H1N1 culture



On the LF platform, the T-line signal values showed a significant gradient change, and the sensitivity of influenza A H1N1 strain culture detection could reach  $8 \times 10^4$  TCID<sub>50</sub>/mL.

## 02 Result of antibody raw material for Influenza B verification

## ④ Test for Influenza B Yamagata culture



On the LF platform, the T-line signal values showed a significant gradient change, and the sensitivity of influenza B Yamagata strain culture detection could reach  $3 \times 10^4$  TCID<sub>50</sub>/mL.

## ④ Test for Influenza A positive samples



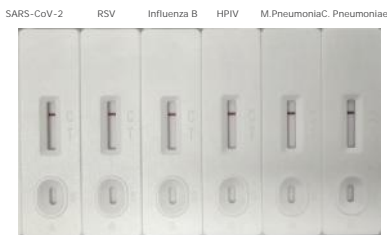
On the LF platform, Influenza A positive samples were tested and all showed positive results.

## ④ Test for Influenza B positive samples



On the LF platform, Influenza B positive samples were tested and all showed positive results.

## ④ Measurement of SARS-CoV-2, RSV, Influenza B, HPIV, M.Pneumonia and C. Pneumoniae



Chromatography platform cross-reactivity tests showed that the antibody pairs did not cross-react with concentrations of  $1 \times 10^4$  TCID<sub>50</sub>/mL of SARS-CoV-2, RSV, Influenza B, HPIV, M.Pneumonia and C. Pneumoniae.

## ④ Measurement of SARS-CoV-2, RSV, Influenza B, HPIV, M.Pneumonia and C. Pneumoniae



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## Respiratory Syncytial Virus ( OEM Test ) (Colloidal Gold Method)

Respiratory syncytial virus, abbreviated RSV is known as respiratory syncytial virus because it causes fusion of neighboring cells during cell culture, and the cell lesions form a syncytium-like structure. Respiratory syncytial virus is currently believed to have only one serotype, which can be divided into two subtypes, A and B. Subtype A predominates in respiratory syncytial virus infections in China.



### Advantages of Our RSV Product



**High sensitivity**  
Up to 150pg/mL



**Rapid response**  
Results in 15min



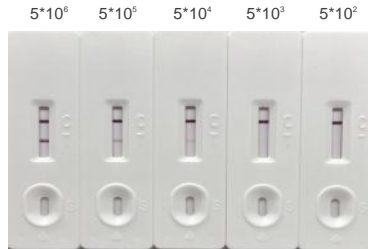
**Excellent specificity**  
No cross-reaction

### Raw materials

Product Name	Cat#	Type	Applicable platforms
Recombinant RSVF0	A00901	Antigen	LF
RSV-mAb	C02703	Antibody	LF CLIA
	C02704		
Humanized RSV-mAb	C02705		
Respiratory Syncytial Virus antigen rapid test uncut sheet (colloidal gold method)	RSV01	Specifications can be customized	

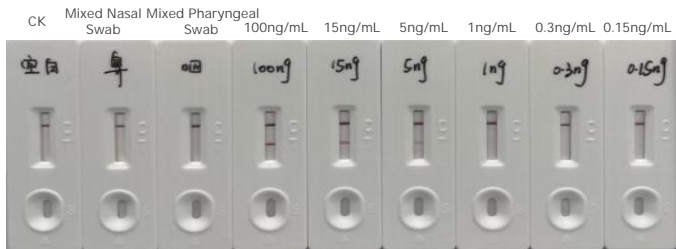
## Results of RSV antibody raw material verification

### 🌐 Cultures of RSV-A strains



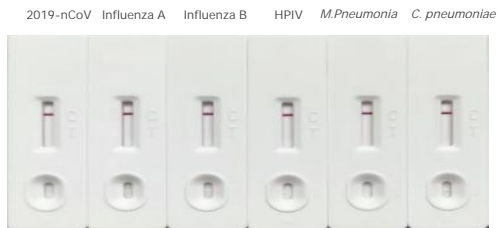
In the LF platform, the T-line signal value showed a significant gradient, and the lowest detection limit was  $5 \times 10^2$  TCID<sub>50</sub>/mL when measuring the culture of RSV-A virus strain.

### 🌐 Test for syncytial virus recombinant antigen



On the LF platform, syncytial virus recombinant antigen was measured with a sensitivity of up to 150 pg/mL.

### 🌐 Measurement of 2019-nCoV, Influenza A, Influenza B, parainfluenza viruses, *M. Pneumonia* and *C. pneumoniae*



Chromatographic platform cross-reactivity test results: The antibody does not cross-react with 2019-nCoV, Influenza A, Influenza B, parainfluenza viruses, *M. Pneumonia* and *C. pneumoniae* at a concentration of  $1 \times 10^7$  TCID<sub>50</sub>/mL.



# LAMP Solutions

LAMP is a new nucleic acid amplification technique. It uses 4 or 6 primers that can recognize 6 specific regions on the target gene, and relies on the strong strand displacement activity of Bst DNA polymerase to amplify DNA up to  $10^9$ - $10^{10}$  times in 30-60 minutes.



## Advantages of our LAMP



**Fast detection**  
Amplification results can be obtained within 30-50 min.



**High sensitivity**  
Detection limits up to fg level can be achieved.



**Excellent specificity**  
The reaction system was carefully optimized to increase the primer annealing temperature and reduce the primer dimer, which significantly improved the specificity.

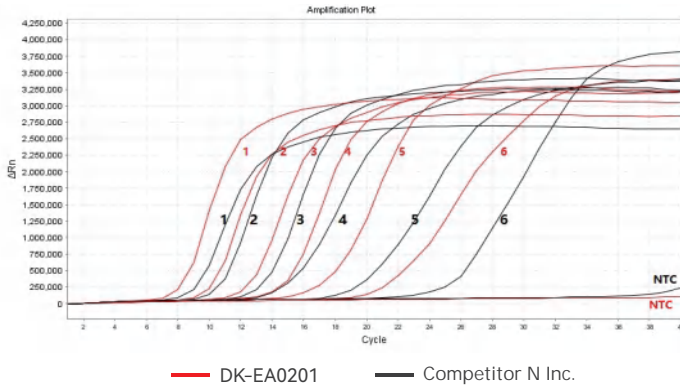
## LAMP raw materials

Cat#	Product Name	Product Role
EB0201	Bst DNA Polymerase	Bst DNA polymerase has 5'-3' polymerase activity and strong strand displacement activity for DNA or RNA templates, but no 5'-3' and 3'-5' nucleic acid exonuclease enzyme activity. The upgraded Bst DNA polymerase has a robust performance for a amplification in high concentrations of DNA amplification inhibited.
EB0118	M-MLV Reverse Transcriptase 4.0	Moloney's murine leukemia virus reverse transcriptase, in the presence of primers, can synthesize complementary DNA strands using single-stranded RNA as a template.
EA0201	LAMP Master Mix with Dye	This premix features an optimized formulation of Bst DNA polymerase for LAMP reactions. The premix contains all the necessary components including enzyme Mix, dNTP, fluorescent dye and reaction Buffer, and only requires the addition of primers and templates for isothermal amplification and real-time fluorescence detection.

## 01 LAMP amplification of the SARS-CoV-2 N gene



EA0201 and competitors synchronized to do the SARS-CoV-2 N gene test, EA0201 sensitivity up to 1fg and negative undetectable, in terms of sensitivity and specificity is better than competitors, faster amplification speed.

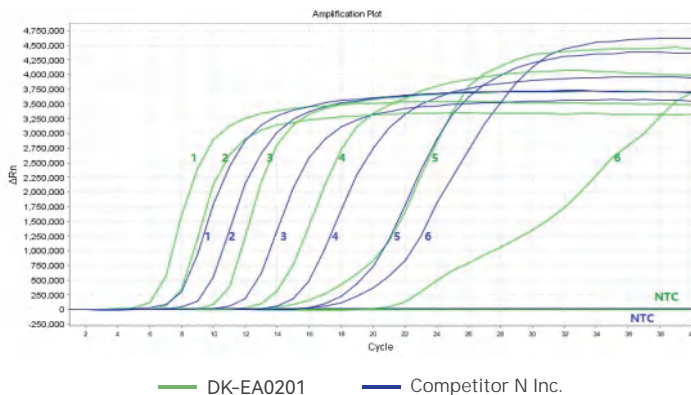


SARS-CoV-2 N gene 1:100pg 2:10pg 3:1pg 4:100fg 5:10fg 6:1fg

## 02 LAMP amplification of African swine fever gene



EA0201 and the competitors do African swine fever gene testing simultaneously, EA0201 sensitivity can be up to 10copies and the peaks are more advanced, and the amplification speed is better than the competitors.



African swine fever gene: 1:10<sup>6</sup>copies 2:10<sup>5</sup>copies 3:10<sup>4</sup>copies 4:10<sup>3</sup>copies 5:10<sup>2</sup>copies 6:10<sup>1</sup>copies

# Biosciences Isothermal Amplification (RPA) Solution

—The optimal choice for nucleic acid on-site rapid detection/molecular POCT

Recombinase Polymerase Amplification (RPA) is an innovative nucleic acid isothermal amplification technology [1]. In recent years, it is known as "the next generation of molecular diagnostic technology [2-3]" and "the optimal choice for molecular POCT [4].", together with the gene editing and microfluidic technology.

## The Advantages of RPA

- High specificity: RPA, combined with gene editing and microfluidic technology, will greatly reduce false positives in rapid detection, even better than that in traditional PCR test<sup>[5]</sup>
- High sensitivity: The amplification limit of RPA technology can be as low as a single copy nucleic acid, and very small amounts of targets can be amplified to a detectable level [6];
- Fast detection: Generally, the amplification can be completed within 20-30 minutes;
- Convenient: Constant temperature reaction at 37~42 °C, without expensive supporting equipment such as thermal cycling, and generally without the need for nucleic acid purification (for example, after using a nasal or pharyngeal swab, nucleic acid release pretreatment can be performed, and then detection can be performed);
- Widely used platforms: electrophoresis detection, fluorescence probe detection, lateral flow chromatography detection, etc.

## RPA Application Scenarios



## Reference

- [1] Piepenburg O, Williams C H, Stemple D L, et al. DNA Detection Using Recombination Proteins[J]. Plos Biology, 2006, 4(7):1115-1121.
- [2] Lee, Sang Hun Park, Seung-min Kim, Brian N. Kwon, Oh Seok Rho, Won-Yep Jun, Bong-Hyun. Emerging ultrafast nucleic acid amplification technologies for next-generation molecular diagnostics[J]. Biosensors & Bioelectronics: The International Journal for the Professional Involved with Research, Technology and Applications of Biosensors and Related Devices, 2019, 141.
- [3] Archer J, Barksby R, Pennance T, et al. Analytical and Clinical Assessment of a Portable, Isothermal Recombinase Polymerase Amplification (RPA) Assay for the Molecular Diagnosis of Urogenital Schistosomiasis[J]. Molecules, 2020, 25.
- [4] Wong S. Moving Toward Rapid and Low-Cost Point-Of-Care Molecular Diagnostics With A Repurposed 3D Printer And RPA[J]. Analytical Biochemistry: An International Journal of Analytical and Preparative Methods, 2018(545-).
- [5] Stewart, Gale, Boudreau, et al. Influence of sequence mismatches on the specificity of recombinase polymerase amplification technology[J]. Molecular and Cellular Probes: The Location, Diagnosis and Monitoring of Disease by Specific Molecules and Cell Lines, 2015, 29(2):116-121.
- [6] Awa B, Hsj C, Dhk C, et al. Rapid and sensitive multiplex molecular diagnosis of respiratory pathogens using plasmonic isothermal RPA array chip[J]. Biosensors and Bioelectronics, 2021, 182.

## East-Mab Biosciences RPA Solution

### Protein Ingredients Related to RPA

Cat. No.	Product Name	Product Mechanism
EB0101	M-MLV Reverse Transcriptase	Moloney Murine Leukemia Virus Reverse Transcriptase, In the presence of primers, it can synthesize complementary DNA strands using single stranded RNA as a template
EB0105	Bsu DNA Polymerase, Large Fragment	DNA polymerase, which derived from Bacillus subtilis, has 5'→ 3' polymerase activity, but does not have 5'→ 3' exonuclease activity
EB0104	T4 Gene 32 Protein	The single strand DNA (ssDNA) binding protein derived from Escherichia coli bacteriophage T4
EB0108	Murine RNase Inhibitor	It can specifically bind to RNase in a noncovalent bond to form a complex, causing RNase inactivation, thereby reducing RNA degradation
EB0102	T4 UvsX Recombinase	DNA recombinase (a RecA-like recombinase) derived from Escherichia coli bacteriophage T4 can be anchored onto single stranded DNA together with other recombinase and activated to search for homologous sequences on other double stranded DNA to further complete strand replacement
EB0103	T4 UvsY Protein	T4 UvsY recombination mediator protein derived from Escherichia coli bacteriophage T4 plays a catalytic role in the execution of homologous recombination by UvsX
EB0115	Creatine Kinase	Catalyzes the conversion of adenosine diphosphate (ADP) and phosphocreatine to ATP and creatine, providing energy for the RPA reaction
EB0116	Exonuclease III	Exonase III's 3'→5' deoxyribonucleic acid exonuclease has specificity for double stranded DNA (dsDNA). Degradation of dsDNA from blunt ends, 5' protruding ends, or gaps, releasing 5' - single nucleotides from the 3' end of the DNA strand, producing single stranded DNA fragments
EB0117	Endonuclease IV	Endonuclease IV is an apurine/aprimidine (AP) endonuclease that hydrolyzes the complete AP site on DNA and also has 3' diesterase activity, capable of releasing glyceraldehyde phosphate, complete deoxyribose 5' -phosphate, and phosphate from the 3' end of DNA

### RPA based turnkey solution

East-Mab Biosciences is deeply cooperating with market leading enterprises to provide an overall solution including RPA / gene editing / microfluidic device chips / fluorescence / chromatography test paper detection, assisting in the development of molecular POCT products.

Jiangsu East-Mab Biomedical Technology Co., Ltd, is established in 2016. We focus on industrial grade raw materials such as recombinant proteins (antigen antibodies / enzymes / cytokines ).

Our company is a high-tech enterprise certified by the Chinese government, with nearly 10,000 m<sup>2</sup> working place, including 4500 m<sup>2</sup> GMP level workshops and 3000 m<sup>2</sup> R&D bases in Nantong and Suzhou, Jiangsu Province.

Our company has passed ISO9001 system certification, is preparing for ISO13485 system certification, and several products are undergoing FDA DMF filing. Our company has a team of nearly 100 people, has received support from multiple investment institutions, and is applying a provincial and municipal engineering technology R&D center certification and we will also cooperate with "Double First-Class" universities to establish key laboratories.