PRODUCT CATALOG

REAGENTS AS RAW MATERIAL FOR IVD SYSTEMS

creative technologies

biotech

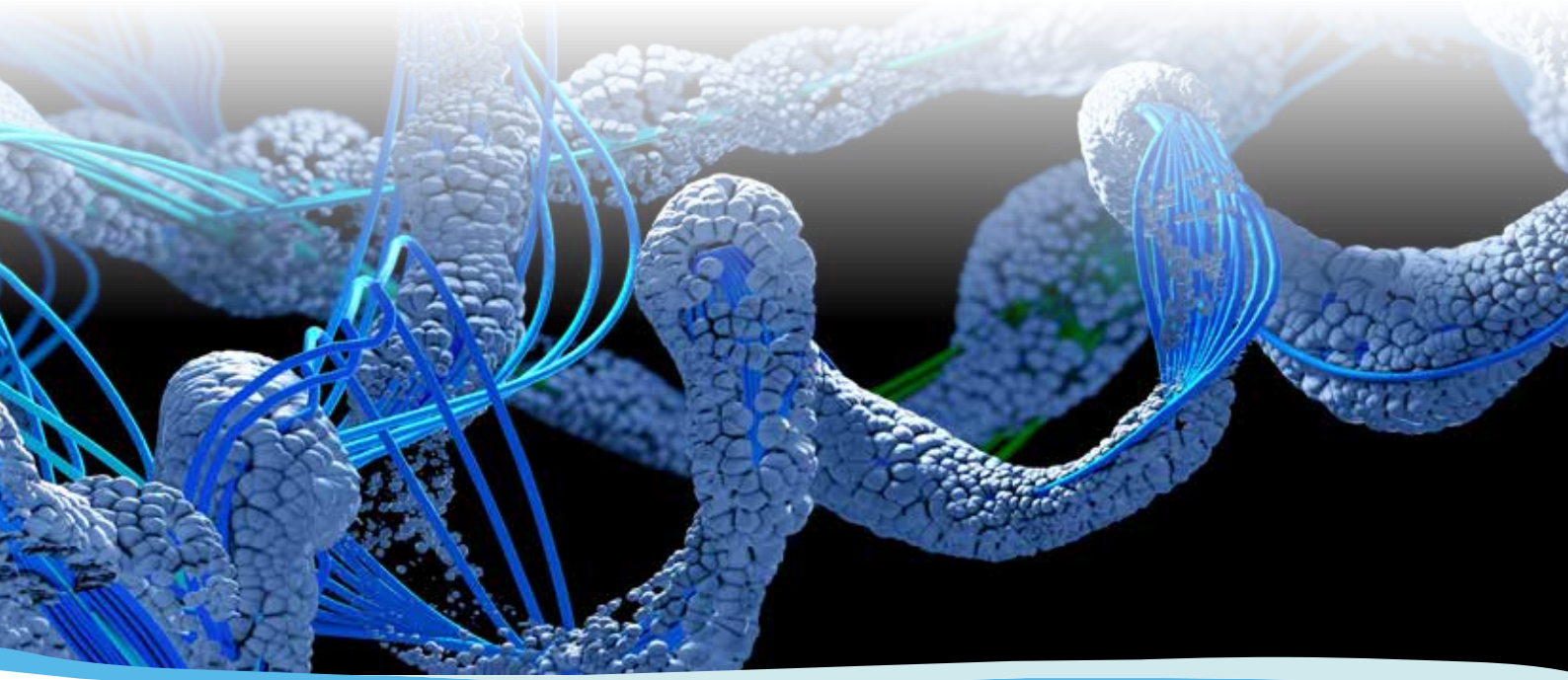
rekom

High Quality Raw Materials

for IVD Manufacturing Industry

FEBRUARY 2024

Index



About us

Rekom Biotech is a biotechnology company focused on the design and manufacturing of **IVD reagents for *in vitro* diagnostics**. We offer high quality, validated and versatile raw material, suitable for use in the various platforms available on the market, among others: second and third generation ELISAs, immunochromatography, chemiluminescence, Western blot, dot-blot, etc.

We are committed to ensure the highest quality level in the design and manufacturing of our IVD reagents, following a rigorous quality control for each lot produced. Our quality system is certified by **ISO 9001** and **ISO 13485** standards. Besides, as we are manufacturers, we can try to adapt our products to your needs, if any problem arises during the evaluation of our products.

Our portfolio includes a range of **recombinant proteins** for **humans** and **animals** that are designed to diagnostic both **infectious diseases** and **allergies**. These proteins can be utilized for various purposes, such as serving as raw material for antibody tests, acting as internal controls for antigen tests, and even functioning as immunogens to create antibodies. To ensure maximum effectiveness, these proteins are produced through a variety of different expression systems.

Our goal is to improve the antigenicity of protein, enhance sensitivity, and reduce potential specificity problems. Additionally, we provide many of these recombinant proteins in monobiotinylated and HRP-conjugated.

In particular, we have specialized in the design and production of next-generation proteins: chimeras or proteins composed of multiple epitopes, which have improved their antigenic properties, such as sensitivity and specificity. Furthermore, another main advantage of the multi-epitope chimeric proteins is avoiding the use of protein mixtures in your assay. The limited number of binding sites and the different affinities of proteins for these sites could result in reproducibility issues.

In our portfolio you will also find: **polyclonal antibodies**, which can be used as raw material for an antigen test, or as an internal calibrator for an antibody test; and an **inmunoassay blocker** for anti-cross-reactive carbohydrate determinants (CCD) antibodies, with which anti-CCD antibodies will be kidnapped, and the specificity of the assay will increase.

We also offer **custom-made proteins and antibodies** service to support the R&D of IVD manufacturers that want to develop a new assay and cannot find the right reagent.

MISSION

In Rekom Biotech our mission is to offer high quality IVD reagents to be used for *in vitro* diagnosis of human and animal infectious diseases and allergies.

Our working philosophy gives priority to the establishment of alliances and collaborations which will allow us to set up new prototypes and develop new products.

VISION

Rekom Biotech wants to become a reference supplier of IVD reagents for human and animal infectious diseases and allergies.

We like to work closely with IVD manufacturers to understand their problems and provide them with products totally adapted to their needs. In Rekom Biotech, we support our customers through the development process to overcome the challenges of applying the recombinant proteins to a specific platform.

We want to mantain our competitiveness through constant innovation in our products. In order to achieve this goal, we encourage continued training and creativity in our team. We give capital importance to participation and collaboration in scientific projects.

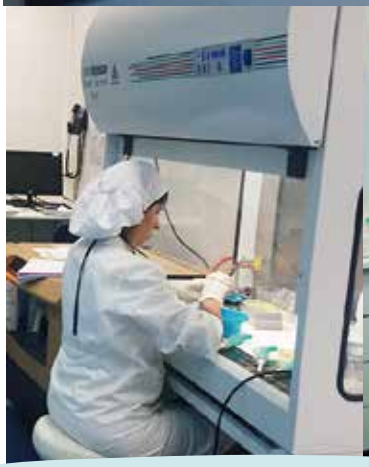
Our facilities

We are located in Spain, Granada, in the PTS, a health sciences scientific park.

We are surrounded by universities, hospitals, research centers, which we have collaborated with many times, and many important companies.





Product performance

Our recombinant proteins are stored in **highly versarile** buffers, allowing their accessibility to the different IVD platforms in the market. Otherwise, our technical team will do its best to adapt the protein to your platform. Trust in us. We will find the best solution for your system.

Many of our IVD reagents have been **validated** by in-house ELISA assays, with pre-validated positive and negative specimen sera.

Our "ready-to-use" **conjugated proteins** (monobiotinylated and HRP-conjugated), can be used with multiple objectives: plate orientation, nanoparticle and gold binding, as detectors in immunocapture and immunometric formats. In addition, formats such as ELISA-capture or ELISA-DAS (Double Antigen Sandwich), can be used directly to reveal your IVD test.

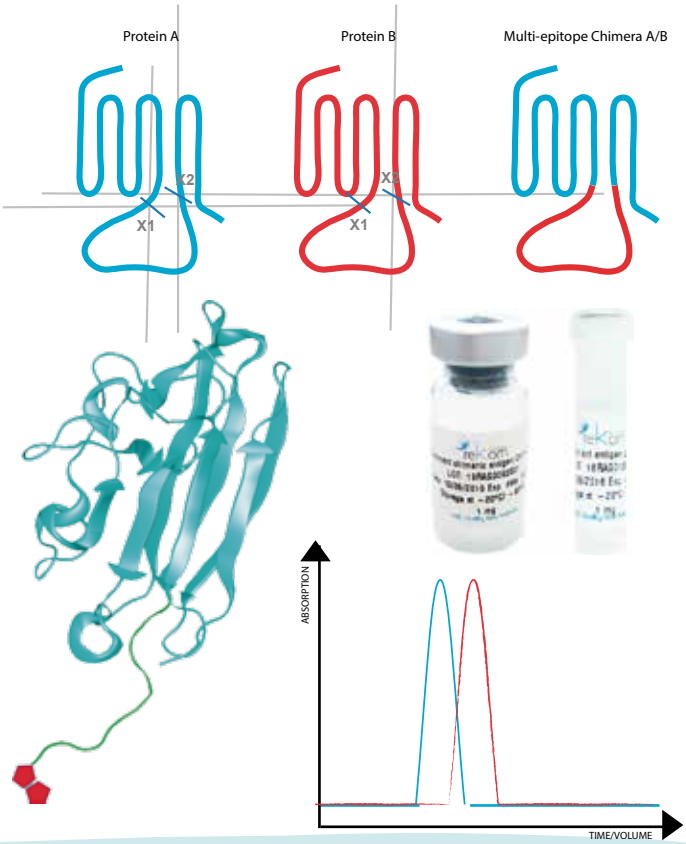
We guarantee the Lot-to-Lot Consistency (**reproducibility**) of our products. We are certified in ISO 9001 and ISO 13485, which means that all our procedures are protocolized, and we comply with the quality requirements that any company would expect to find in an IVD reagents supplier.

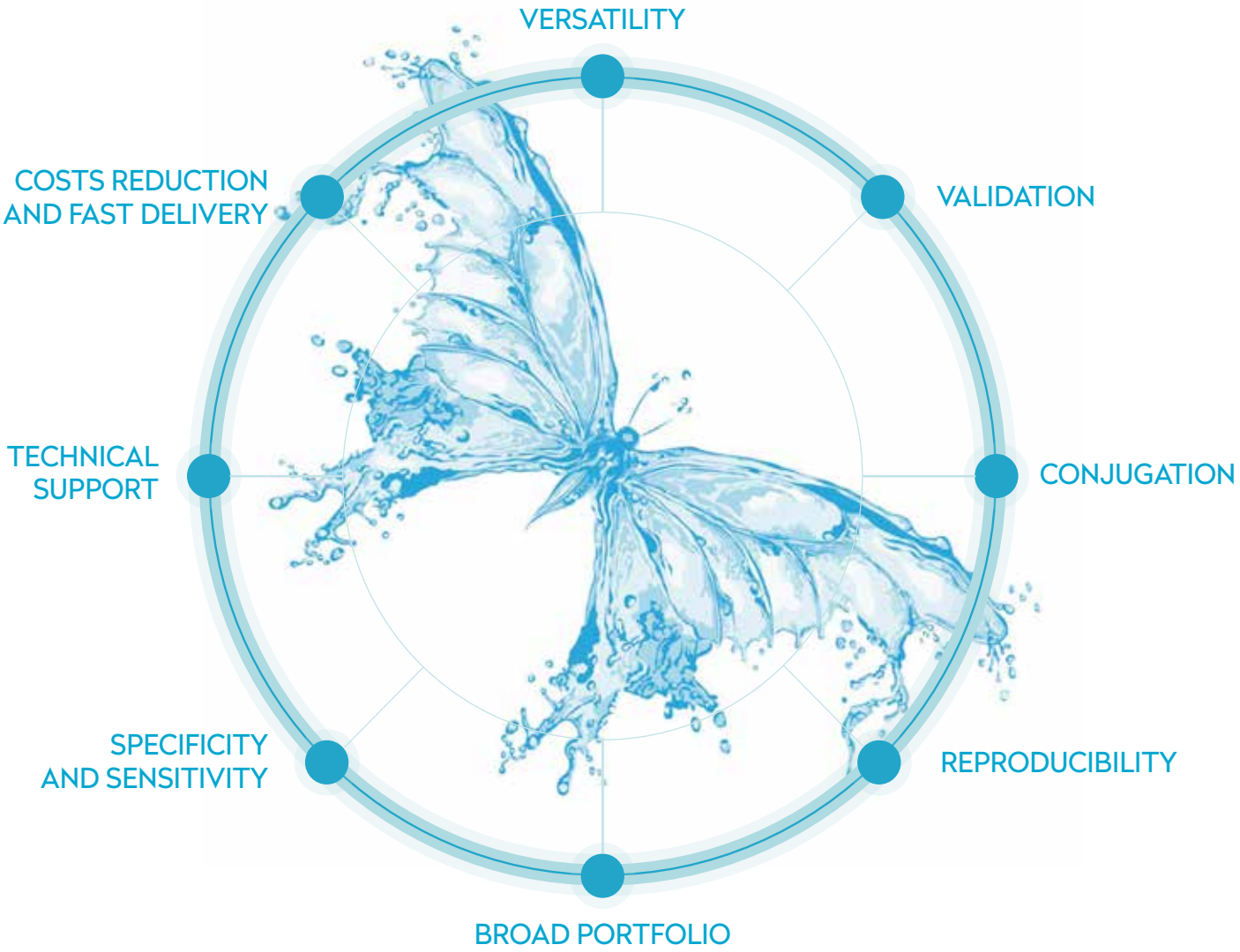
Rekom Biotech offers a **broad portfolio** of IVD reagents. We have many recombinant proteins for IVD manufacturing industry, aimed at the identification of diagnosis of **humans** and **animals** infectious diseases, and **allergies**. We also have **antibodies** for the development of your antigen test, or as an internal calibrator for your antibody test. Besides, we offer **sorbents** for using in *in vitro* diagnostic.

At Rekom Biotech, we have specialized in the design and production of next-generation proteins, recombinant chimeric or multi-epitope proteins, which have improved their antigenic properties such as **sensitivity and specificity**. In other words, these are last-generation IVD reagents which will make your IVD test stand out in the market.

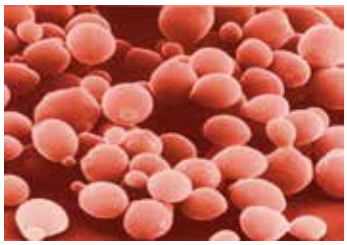
We offer customized **technical support**. Given our extensive experience in the sector and our great technical capacity, we can provide you with whatever you need, even if it is not in the market.

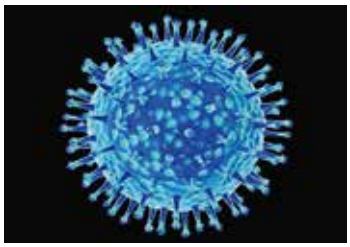
Focused on **reducing** the complexity of **logistics** and the **shipping costs**, we lyophilize all our IVD reagents. The lyophilization significantly reduces the cost of transport, which also does not require dry ice anymore, and facilitates the entry of our products to a greater number of countries, without the need of intermediaries.

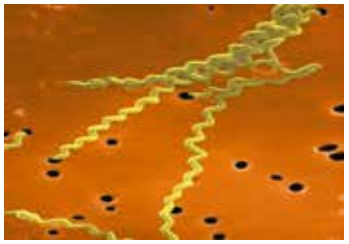



VERSATILITY
VALIDATION
CONJUGATION
REPRODUCIBILITY
BROAD PORTFOLIO
SPECIFICITY AND SENSITIVITY
TECHNICAL SUPPORT
COSTS REDUCTION AND FAST DELIVERY

HUMAN INFECTIOUS DISEASES




Rekom Biotech offers a wide range of **recombinant proteins** for *in vitro* diagnosis of **human infectious diseases**, including those of zoonotic origin. These proteins will allow you to manufacture your **antibody tests** with a raw material of high quality and reproducibility, viable for any existing diagnostic platform on the market. Given our extensive experience in the sector, we can advise you on what best suits your project. Trust us!

We design and produce recombinant proteins for human infectious diseases in the areas of parasitology, virology, bacteriology, and mycology.

PARASITES

VIRUSES

BACTERIA

FUNGI

PARASITES

ChimToxo1
ChimToxo1

KMP11
KMP11

1F8
1F8

K39
K39

ChimChagas2
ChimChagas2

p35 (GRA8)
p35 (GRA8)

FRA
FRA

p29 (GRA7)
p29(GRA7)

p30 (SAG1)
p30 (SAG1)

ChimChagas1
ChimChagas1

ChimChagas3
ChimChagas3

B13
B13

CHAGAS *(Trypanosoma cruzi)*

NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
1F8*	RAG0003	*E. coli*	WB, DB, IE, DE, CLIA, LF	Calcium-binding flagellar antigen
B13*	RAG0103	*E. coli*	WB, DB, IE, DE, CLIA, LF	CA-2 surface antigen, oka. Ag2, PEP2, TcR34
FRA*	RAG0005	*E. coli*	WB, DB, IE, DE, CLIA, LF	Cytoskeleton assoc. antigen, oka. Ag1, JL7, H49
ChimChagas1*	RAG0093	*E. coli*	WB, DB, IE, DE, CLIA, LF	Recombinant chimeric antigen
ChimChagas2*	RAG0094	*E. coli*	WB, DB, IE, DE, CLIA, LF	Recombinant chimeric antigen
ChimChagas3*	RAG0096	*E. coli*	WB, DB, IE, DE, CLIA, LF	Recombinant chimeric antigen
	RAG0096BIOT	*E. coli*	WB, DB, CE, DAS, NP, PO	ChimChagas3 biotinylated

***Specific Antibodies**: Polyclonal antibody against Chagas (p. 54)

LEISHMANIOSIS *(Leishmania infantum)*

NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
K39	RAG0061	*E. coli*	WB, DB, IE, DE, CLIA, LF	Parasite kinesin-related antigen
	RAG0061BIOT	*E. coli*	WB, DB, CE, DAS, NP, PO	K39 biotinylated
KMP11	RAG0038	*E. coli*	WB, DB, IE, DE, CLIA, LF	Kinetoplastid membrane antigen of 11 kDa

TOXOPLASMOSIS *(Toxoplasma gondii)*

NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
p29 (GRA7)*	RAG0083	*E. coli*	WB, DB, IE, DE, CLIA, LF	Dense granule antigen
p30 (SAG1)*	RAG0011	*E. coli*	WB, DB, IE, DE, CLIA, LF	Major surface antigen
	RAG0030	*P. pastoris*	WB, DB, IE, DE, CLIA, LF	p30 (SAG1) in *P. pastoris*
p35 (GRA8)*	RAG0084	*E. coli*	WB, DB, IE, DE, CLIA, LF	Dense granule antigen
ChimToxo1*	RAG0058	*P. pastoris*	WB, DB, IE, DE, CLIA, LF	Recombinant chimeric antigen (SAG1 and GRA8)

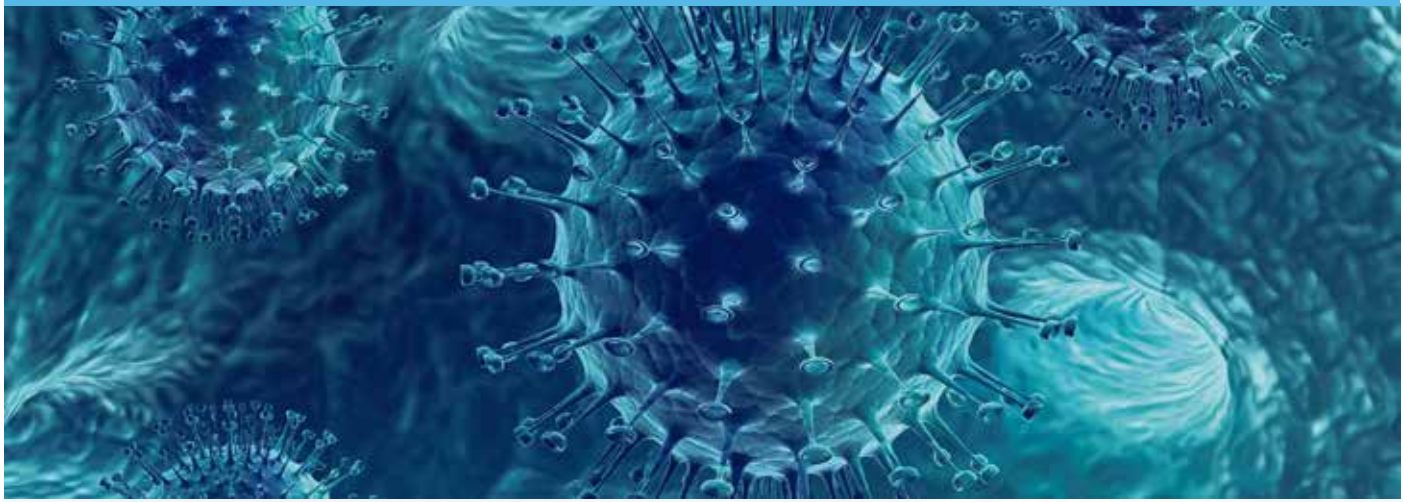
***Specific Antibodies**: Polyclonal antibody against GRA7/GRA8 and SAG1 (p. 54)

WB: Western Blot
DB: Dot Blot
IE: Indirect ELISA
DE: positive control in direct ELISA
CLIA: Chemiluminescent Immunoassay
LF: Lateral Flow
CE: Capture ELISA
DAS: Double antigen sandwich
NP: nanoparticles binding
PO: plate orientation

Pack size: 0.1 mg*; 1 mg; bulk
Format: liquid; lyophilised
*under availability, for liquid format

Top product (Satisfaction guarantee)

VIRUSES



pp52 pp52 pp28 pp28 EDENV4 EDENV4 gG2 gG2 S1 (RBD) (COVID-19) S1 (RBD) (COVID-19) HBeAg HBeAg p54 p54 p138 p138 ChimCMV1 ChimCMV1 NP (CTD) (COVID-19) NP (CTD) (COVID-19) pp65 pp65 ChimCMV3 ChimCMV3 p18 p18 pp150 pp150 p23 p23 gG1 gG1 EBNA1 EBNA1 ChimEBV-VCA ChimEBV-VCA HBcAg HBcAg ChimEBV-EA ChimEBV-EA ZEBRA ZEBRA E E p24 p24 VP1 VP1 ChimCMV2 ChimCMV2 NP (CTD) NP (CTD)

AIDS (HIV)

NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
p24	**RAG0057**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Viral capsid antigen
	RAG0057BIOT	*E. coli*	WB, DB, CE, NP, PO	p24 biotinylated

COVID-19 (SARSCoV-2)

NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
NP (CTD)	**RAG0071**	*E. coli*	WB, DB, IE, DE, CLIA, LF	SARS-CoV-2 nucleoprotein C-terminal domain
S1 (RBD)	**RAG0074**	*P. pastoris*	WB, DB, IE, DE, CLIA, LF	SARS-CoV-2 S1 Receptor Binding Domain (RBD)

COXSACKIEVIRUS *(coxsackievirus B1)*

NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
VP1	**RAG0028**	*E. coli*	WB, DB, IE, DE	Viral polyprotein. Tucson

CYTOMEGALOVIRUS (CMV)

NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
pp52*	**RAG0090**	*E. coli*	WB, DB, IE, DE, CLIA, LF	DNA polymerase processivity subunit
	RAG0090BIOT	*E. coli*	WB, DB, CE, NP, PO	pp52 biotinylated
pp65*	**RAG0016**	*E. coli*	WB, DB, IE, DE	Viral tegument phosphoprotein
pp150*	**RAG0091**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Viral matrix phosphoprotein
new!	**RAG0059**	*E. coli*	WB, DB, IE, DE, CLIA, LF	
ChimCMV1*	**RAG0109**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Recombinant chimeric antigen
	RAG0109BIOT	*E. coli*	WB, DB, CE, NP, PO	ChimCMV1 biotinylated
ChimCMV2*	**RAG0110**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Recombinant chimeric antigen
	RAG0110BIOT	*E. coli*	WB, DB, CE, NP, PO	ChimCMV2 biotinylated
ChimCMV3*	**RAG0018** new!	*E. coli*	WB, DB, IE, DE, CLIA, LF	Recombinant chimeric antigen
pp28	**RAG0004** new!	*E. coli*	WB, DB, IE, DE, CLIA, LF	Phosphoprotein

***Specific Antibodies**: Polyclonal antibodies against pp52, pp65 and pp150 (p. 54)

WB: Western Blot
DB: Dot Blot
IE: Indirect ELISA
DE: positive control in direct ELISA
CLIA: Chemiluminescent Immunoassay

LF: Lateral Flow
CE: Capture ELISA
DAS: Double antigen sandwich
NP: nanoparticles binding
PO: plate orientation

Pack size: 0.1 mg*; 1 mg; bulk
Format: liquid; lyophilised
*under availability, for liquid format

Top product (Satisfaction guarantee)

DENGUE

NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
EDENV4	**RAG0070**	*P. pastoris*	WB, DB, IE, DE, CLIA, LF	Dengue Virus envelope protein

EPSTEIN-BARR VIRUS (EBV)

NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
EBNA1	**RAG0007**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Late nuclear antigen
	RAG0047	*E. coli*	WB, DB, IE, DE	
p18	**RAG0049**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Viral capsid antigen
	RAG0049BIOT	*E. coli*	WB, DB, CE, NP, PO	p18 biotinylated
p23	**RAG0002**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Viral capsid antigen
p54	**RAG0035**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Early antigen
p138	**RAG0033**	*E. coli*	WB, DB, IE, DE	Early antigen
ZEBRA	**RAG0023**	*E. coli*	WB, DB, IE, DE	Transcription factor, early antigen
ChimEBV-VCA	**RAG0081** new!	*E. coli*	WB, DB, IE, DE, CLIA, LF	Recombinant chimeric antigen
ChimEBV-EA	**RAG0082** new!	*E. coli*	WB, DB, IE, DE, CLIA, LF	Recombinant chimeric antigen

GENITAL HERPES produced by HSV-2 (Herpes simplex virus type 2)

NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
gG2	**RAG0087**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Contains the immunogenic regions of the glycoprotein G from the HSV-2

WB: Western Blot
DB: Dot Blot
IE: Indirect ELISA
DE: positive control in direct ELISA
CLIA: Chemiluminescent Immunoassay
LF: Lateral Flow
CE: Capture ELISA
DAS: Double antigen sandwich
NP: nanoparticles binding
PO: plate orientation

Pack size: 0.1 mg*; 1 mg; bulk
Format: liquid; lyophilised
*under availability, for liquid format

Top product (Satisfaction guarantee)

HEPATITIS B (HBV)

NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
HBcAg*	**RAG0056**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Hepatitis B virus core antigen assembled as capsid-like particles
HBeAg	**RAG0062**	*E. coli*	WB, DB, IE, DE, CLIA, LF	HBV e antigen that comprises the 10 aa pre-core sequence plus the 149-residue assembly core

***Specific Antibodies**: Polyclonal antibodies against HBcAg (p. 54)

SARS-CoV (2003)

NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
NP (CTD)	**RAG0080**	*E. coli*	WB, DB, IE, DE, CLIA, LF	SARS-CoV nucleoprotein C-terminal domain. **92.5% identity with NP COVID-19.**

ORAL HERPES produced by HSV-1 (Herpes simplex virus type 1)

NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
gG1	**RAG0017**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Recombinant mature glycoprotein G for HSV-1
new!	**RAG0017BIOT**	*E. coli*	WB, DB, CE, NP, PO	gG1 biotinylated
new!	**RAG0105**	*P. pastoris*	WB, DB, IE, DE, CLIA, LF	

WEST NILE VIRUS (WNV)

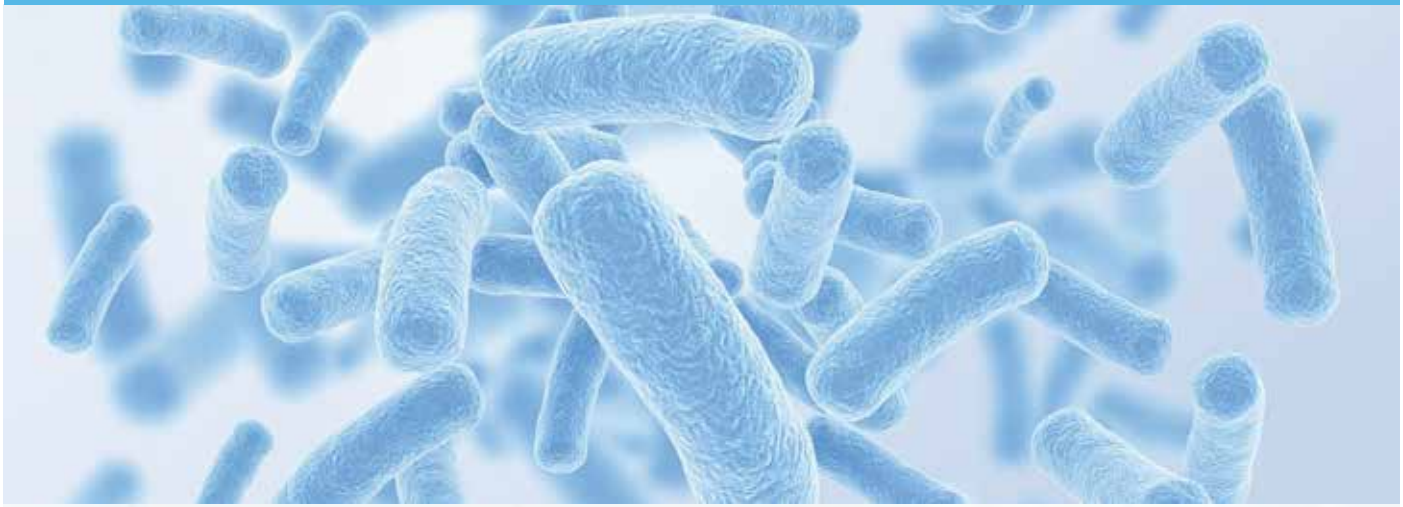
NAME	CAT NUMBER			
E	**RAG0001**	*E. coli*	WB, DB, IE, DE	Envelope glycoprotein
	RAG0065	*P. pastoris*	WB, DB, IE, DE, CLIA, LF	

WB: Western Blot
DB: Dot Blot
IE: Indirect ELISA
DE: positive control in direct ELISA
CLIA: Chemiluminescent Immunoassay
LF: Lateral Flow
CE: Capture ELISA
DAS: Double antigen sandwich
NP: nanoparticles binding
PO: plate orientation

Pack size: 0.1 mg*; 1 mg; bulk
Format: liquid; lyophilised
*under availability, for liquid format

Top product (Satisfaction guarantee)

BACTERIA



Tpp15 Tpp47 ChimSyphilis2 VLsE

p44 LipL21 P30 TmpA LipL32

CFP10:ESAT6 ospC Flagellin

P1 OMP ChimShypilis1 Tpp17 CFP10

ANAPLASMOSIS *(Anaplasma phagocytophilum)*

NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
p44	**RAG0026**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Outer membrane antigen for *A.phagocytophilum*

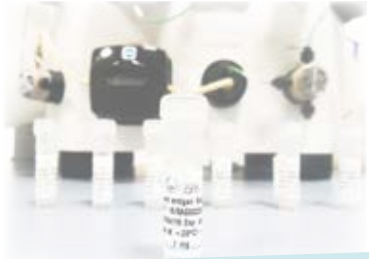
BORRELIOSIS or LYME DISEASE

NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
ospC	**RAG0042** (*Ba*)	*E. coli*	WB, DB, IE, DE, CLIA, LF	Outer membrane antigen for *B. afzelli*
	RAG0043 (*Bb*)	*E. coli*	WB, DB, IE, DE, CLIA, LF	Outer membrane antigen for *B. burgdorferi*
	RAG0034 (*Bg*)	*E. coli*	WB, DB, IE, DE, CLIA, LF	Outer membrane antigen for *B. garinii*
flagellin B	**RAG0054** (*Ba*)	*E. coli*	WB, DB, IE, DE, CLIA, LF	Internal central portion of *B. afzelii* 41 kDa flagelline B protein
	RAG0055 (*Bb*)	*E. coli*	WB, DB, IE, DE, CLIA, LF	Internal central portion of *B. burgdorferi* 41 kDa flagelline B protein
	RAG0072 (*Bg*)	*E. coli*	WB, DB, IE, DE, CLIA, LF	Internal central portion of *B. garinii* 41 kDa flagelline B protein
VlsE	**RAG0022** (*Bg*)	*E. coli*	WB, DB, IE, DE, CLIA, LF	Recombinant chimeric antigen VlsE for *B. garinii*
	RAG0027 (*Bb*)	*E. coli*	WB, DB, IE, DE, CLIA, LF	Recombinant chimeric antigen VlsE for *B. burgdorferi*
	RAG0102 (*Ba*)	*E. coli*	WB, DB, IE, DE, CLIA, LF	Major variable Surface antigen for *B. afzelii*

LEPTOSPIROSIS *(Leptospira interrogans)*

NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
LipL32	**RAG0077**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Major outer membrane antigen, lipoprotein
	RAG0063	*P. pastoris*	WB, DB, IE, DE, CLIA, LF	LipL32 in *P. pastoris*
LipL21	**RAG0100**	*P. pastoris*	WB, DB, IE, DE, CLIA, LF	The second most abundant protein *L. interrogans*

WB: Western Blot
DB: Dot Blot
IE: Indirect ELISA
DE: positive control in direct ELISA
CLIA: Chemiluminescent Immunoassay
LF: Lateral Flow
CE: Capture ELISA
DAS: Double antigen sandwich
NP: nanoparticles binding
PO: plate orientation



Pack size: 0.1 mg*; 1 mg; bulk
Format: liquid; lyophilised
*under availability, for liquid format

Top product (Satisfaction guarantee)

ATYPICAL PNEUMONIA *(Mycoplasma pneumoniae)*

NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
P1	**RAG0053**	*E. coli*	WB, DB, IE, DE, CLIA, LF	*Mycoplasma pneumoniae* P1 adhesin protein
P30	**RAG0041** new!	*E. coli*	WB, DB, IE, DE, CLIA, LF	*Mycoplasma pneumoniae* P30 adhesin protein

TUBERCULOSIS *(Mycobacterium tuberculosis, Koch's bacillus)*

NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
CFP10 *	**RAG0050**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Culture filtrate antigen of 10 kDa
CFP10:ESAT6*	**RAG0060**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Recombinant chimeric antigen

***Specific Antibodies**: Polyclonal antibody against Tuberculosis (p. 54)

SYPHILIS *(Treponema pallidum)*

NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
TmpA	**RAG0073**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Membrane lipoprotein
Tpp15	**RAG0009**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Membrane lipoprotein
	RAG0009BIOT	*E. coli*	WB, DB, CE, DAS, NP, PO	Tpp15 biotinylated
Tpp17	**RAG0008**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Membrane lipoprotein
	RAG0008BIOT	*E. coli*	WB, DB, CE, DAS, NP, PO	Tpp17 biotinylated
Tpp47	**RAG0010**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Membrane lipoprotein
	RAG0010BIOT	*E. coli*	WB, DB, CE, DAS, NP, PO	Tpp47 biotinylated
ChimSyphilis1	**RAG0046**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Recombinant chimeric antigen (Tpp17 and Tpp47)
	RAG0046BIOT	*E. coli*	WB, DB, CE, DAS, NP, PO	ChimSyphilis1 biotinylated
ChimSyphilis2	**RAG0064**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Recombinant chimeric antigen (Tpp15 and TmpA)
	RAG0064BIOT	*E. coli*	WB, DB, CE, DAS, NP, PO	ChimSyphilis2 biotinylated

WB: Western Blot
DB: Dot Blot
IE: Indirect ELISA
DE: positive control in direct ELISA
CLIA: Chemiluminescent Immunoassay
LF: Lateral Flow
CE: Capture ELISA
DAS: Double antigen sandwich
NP: nanoparticles binding
PO: plate orientation

Pack size: 0.1 mg*; 1 mg; bulk
Format: liquid; lyophilised
*under availability, for liquid format

Top product (Satisfaction guarantee)

TYPHOID FEVER *(Salmonella typhi)*				
NAME	**CAT NUMBER**	**SOURCE**	**APPLICATION**	**DESCRIPTION**
Flagellin	**RAG0032**	*E. coli*	WB, DB, IE, DE, CLIA, LF	The flagella antigen of *Salmonella typhi*
OMP	**RAG0021**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Outer membrane protein

WB: Western Blot
DB: Dot Blot
IE: Indirect ELISA
DE: positive control in direct ELISA
CLIA: Chemiluminescent Immunoassay
LF: Lateral Flow
CE: Capture ELISA
DAS: Double antigen sandwich
NP: nanoparticles binding
PO: plate orientation

Pack size: 0.1 mg*; 1 mg; bulk
Format: liquid; lyophilised
*under availability, for liquid format

Top product (Satisfaction guarantee)

FUNGI

1/6,400 (0.1828 µg/ml)

Enolase
Enolase
Enolase
Enolase
Enolase
Enolase
Enolase
Enolase
Enolase
Enolase
Enolase
Enolase
Enolase
Enolase
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Enolase

CANDIDIASIS *(Candida albicans)*				
NAME	**CAT NUMBER**	**SOURCE**	**APPLICATION**	**DESCRIPTION**
Enolase	**RAG0044**	*E. coli*	WB, DB, IE, DE	Antigen corresponding to the glycolytic enzyme 2-phosphoD-glycerate hyidrolyase

WB: Western Blot
DB: Dot Blot
IE: Indirect ELISA
DE: positive control in direct ELISA
CLIA: Chemiluminescent Immunoassay
LF: Lateral Flow
CE: Capture ELISA
DAS: Double antigen sandwich
NP: nanoparticles binding
PO: plate orientation

Pack size: 0.1 mg*; 1 mg; bulk
Format: liquid; lyophilised
*under availability, for liquid format

Top product (Satisfaction guarantee)

ANIMAL INFECTIOUS DISEASES

Rekom Biotech also offers **recombinant proteins** for *in vitro* diagnosis of **animal infectious diseases**. Our goal is to offer the *in vitro* diagnostic sector for **veterinary** use, a wide catalog of recombinant proteins for diseases produced in pets and farm animals. Take a look at our portfolio!

Acquired feline immunodeficiency syndrome (FIV)

NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
gp40	**RAG0066**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Transmembrane subunit of the 150 kDa envelope glycoprotein
p24	**RAG0013**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Feline immunodeficiency virus (FIV) core antigen p24
p15	**RAG0015** new!	*E. coli*	WB, DB, IE, DE, CLIA, LF	Matrix protein

For diagnosis of the disease in cats.

Anaplasmosis *(Anaplasma phagocytophilum)*

NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
p44	**RAG0026**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Outer membrane antigen for *A.phagocytophilum*

For diagnosis of the disease in dogs, cats, horses, sheep and cattle.

WB: Western Blot
DB: Dot Blot
IE: Indirect ELISA
DE: positive control in direct ELISA
CLIA: Chemiluminescent Immunoassay
LF: Lateral Flow
CE: Capture ELISA
DAS: Double antigen sandwich
NP: nanoparticles binding
PO: plate orientation

Pack size: 0.1 mg*; 1 mg; bulk
Format: liquid; lyophilised
*under availability, for liquid format

Top product (Satisfaction guarantee)

BABESIOSIS (PIROPLASMOSIS)

NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
BcMSA1	**RAG0020** (*Bc*)	*P. pastoris*	WB, DB, IE, DE, CLIA, LF	Merozoite Surface Antigen for *Babesia canis*
	RAG0020BIOT	*P. pastoris*	WB, DB, CE, NP, PO	BcMSA1 biotinylated
Bc28.1	**RAG0029** (*Bc*)	*E. coli*	WB, DB, EI, ED, CLIA, LF	The major member of the Bc28 multigenic family
BcSA1	**RAG0012** (*Bc*)	*E. coli*	WB, DB, EI, ED, CLIA, LF	BcSA1 surface antigen for *Babesia canis*
ChimBc	**RAG0040** (*Bc*)	*E. coli*	WB, DB, EI, ED, CLIA, LF	Recombinant chimeric antigen for *Babesia canis*
ChimBg new!	**RAG0045** (*Bg*)	*E. coli*	WB, DB, EI, ED, CLIA, LF	Recombinant chimeric antigen for *Babesia gibsoni*

For diagnosis of the disease in dogs.

BORRELIOSIS or LYME DISEASE

NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
ospC	**RAG0042** (*Ba*)	*E. coli*	WB, DB, IE, DE, CLIA, LF	Outer membrane antigen for *B. afzelli*
	RAG0043 (*Bb*)	*E. coli*	WB, DB, IE, DE, CLIA, LF	Outer membrane antigen for *B. burgdorferi*
	RAG0034 (*Bg*)	*E. coli*	WB, DB, IE, DE, CLIA, LF	Outer membrane antigen for *B. garinii*
flagellin B	**RAG0054** (*Ba*)	*E. coli*	WB, DB, IE, DE, CLIA, LF	Internal central portion of *B. afzelii* 41 kDa flagelline B protein
	RAG0055 (*Bb*)	*E. coli*	WB, DB, IE, DE, CLIA, LF	Internal central portion of *B. burgdorferi* 41 kDa flagelline B protein
	RAG0072 (*Bg*)	*E. coli*	WB, DB, IE, DE, CLIA, LF	Internal central portion of *B. garinii* 41 kDa flagelline B protein
VlsE	**RAG0022** (*Bg*)	*E. coli*	WB, DB, IE, DE, CLIA, LF	Recombinant chimeric antigen VlsE for *B. garinii*
	RAG0027 (*Bb*)	*E. coli*	WB, DB, IE, DE, CLIA, LF	Recombinant chimeric antigen VlsE for *B. burgdorferi*
	RAG0102 (*Ba*)	*E. coli*	WB, DB, IE, DE, CLIA, LF	Major variable Surface antigen for *B. afzelii*

For diagnosis of the disease in dogs, horses and occasionally in beef cattle.

WB: Western Blot
DB: Dot Blot
IE: Indirect ELISA
DE: positive control in direct ELISA
CLIA: Chemiluminescent Immunoassay
LF: Lateral Flow
CE: Capture ELISA
DAS: Double antigen sandwich
NP: nanoparticles binding
PO: plate orientation

Pack size: 0.1 mg*; 1 mg; bulk
Format: liquid; lyophilised
*under availability, for liquid format

Top product (Satisfaction guarantee)

CHAGAS *(Trypanosoma cruzi)*

NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
1F8*	RAG0003	*E. coli*	WB, DB, IE, DE, CLIA, LF	Calcium-binding flagellar antigen
B13*	RAG0103	*E. coli*	WB, DB, IE, DE, CLIA, LF	CA-2 surface antigen, oka. Ag2, PEP2, TcR34
FRA*	RAG0005	*E. coli*	WB, DB, IE, DE, CLIA, LF	Cytoskeleton assoc. antigen, oka. Ag1, JL7, H49
ChimChagas1*	RAG0093	*E. coli*	WB, DB, IE, DE, CLIA, LF	Recombinant chimeric antigen
ChimChagas2*	RAG0094	*E. coli*	WB, DB, IE, DE, CLIA, LF	Recombinant chimeric antigen
ChimChagas3*	RAG0096	*E. coli*	WB, DB, IE, DE, CLIA, LF	Recombinant chimeric antigen
	RAG0096BIOT	*E. coli*	WB, DB, CE, DAS, NP, PO	ChimChagas3 biotinylated

For diagnosis of the disease in dogs.
***Specific Antibodies**: Polyclonal antibody against Chagas (p. 54)

DIROFILARIASIS *(Dirofilaria immitis)*

NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
ChimDiT33	RAG0014	*E. coli*	WB, DB, IE, DE, CLIA, LF	Recombinant quimeric antigen for *Dirofilaria immitis*

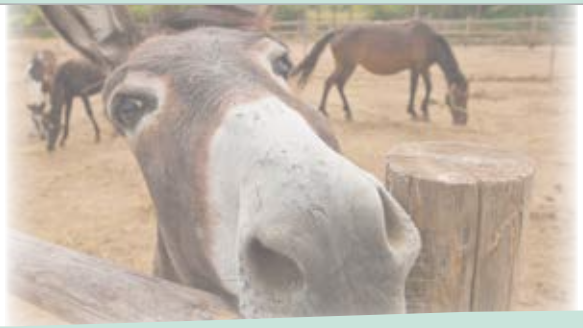
For diagnosis of the disease in dogs, cats, ferrets, cattle, foxes, coyotes, sea lions.

EHRLICHIOSIS *(Ehrlichia canis)*

NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
gp19	RAG0025	*E. coli*	WB, DB, IE, DE, CLIA, LF	Glycoprotein gp19 of *Ehrlichia canis*

For diagnosis of the disease in dogs.

WB: Western Blot
DB: Dot Blot
IE: Indirect ELISA
DE: positive control in direct ELISA
CLIA: Chemiluminescent Immunoassay
LF: Lateral Flow
CE: Capture ELISA
DAS: Double antigen sandwich
NP: nanoparticles binding
PO: plate orientation



Pack size: 0.1 mg*; 1 mg; bulk
Format: liquid; lyophilised
*under availability, for liquid format

Top product (Satisfaction guarantee)

LEISHMANIOSIS *(Leishmania infantum)*				
NAME	**CAT NUMBER**	**SOURCE**	**APPLICATION**	**DESCRIPTION**
K39	**RAG0061**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Parasite kinesin-related antigen
	RAG0061BIOT	*E. coli*	WB, DB, CE, DAS, NP, PO	K39 biotinylated
KMP11	**RAG0038**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Kinetoplastid membrane antigen of 11 kDa
For diagnosis of the disease in dogs and cats.				

LEPTOSPIROSIS *(Leptospira interrogans)*				
NAME	**CAT NUMBER**	**SOURCE**	**APPLICATION**	**DESCRIPTION**
LipL32	**RAG0077**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Major outer membrane antigen, lipoprotein
	RAG0063	*P. pastoris*	WB, DB, IE, DE, CLIA, LF	LipL32 in *P. pastoris*
LipL21	**RAG0100**	*P. pastoris*	WB, DB, IE, DE, CLIA, LF	The second most abundant protein *L. interrogans*
For diagnosis of the disease in dogs, beef cattle, pigs and horses.				

NEOSPOROSIS *(Neospora caninum)*				
NAME	**CAT NUMBER**	**SOURCE**	**APPLICATION**	**DESCRIPTION**
NcGRA7	**RAG0024**	*E. coli*	WB, DB, IE, DE, CLIA, LF	*Neospora caninum* dense granule antigen GRA7
	RAG0024BIOT	*E. coli*	WB, DB, CE, NP, PO	NcGRA7 biotinylated
For diagnosis of the disease in warm-blooded mammals, mainly dogs and cattle				

WB: Western Blot
DB: Dot Blot
IE: Indirect ELISA
DE: positive control in direct ELISA
CLIA: Chemiluminescent Immunoassay
LF: Lateral Flow
CE: Capture ELISA
DAS: Double antigen sandwich
NP: nanoparticles binding
PO: plate orientation

Pack size: 0.1 mg*; 1 mg; bulk
Format: liquid; lyophilised
*under availability, for liquid format

Top product (Satisfaction guarantee)

TOXOPLASMOSIS *(Toxoplasma gondii)*

NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
p29 (GRA7)*	RAG0083	*E. coli*	WB, DB, IE, DE, CLIA, LF	Dense granule antigen
p30 (SAG1)*	RAG0011	*E. coli*	WB, DB, IE, DE, CLIA, LF	Major surface antigen
	RAG0030	*P. pastoris*	WB, DB, IE, DE, CLIA, LF	p30 (SAG1) in *P. pastoris*
p35 (GRA8)*	RAG0084	*E. coli*	WB, DB, IE, DE, CLIA, LF	Dense granule antigen
ChimToxo1*	RAG0058	*P. pastoris*	WB, DB, IE, DE, CLIA, LF	Recombinant chimeric antigen (SAG1 and GRA8)

For diagnosis of the disease in warm-blooded animals.

***Specific Antibodies**: Polyclonal antibody against GRA7/GRA8 and SAG1 (p. 54)

TUBERCULOSIS *(Mycobacterium tuberculosis, Koch's bacillus)*

NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
CFP10 *	RAG0050	*E. coli*	WB, DB, IE, DE, CLIA, LF	Culture filtrate antigen of 10 kDa
CFP10:ESAT6*	RAG0060	*E. coli*	WB, DB, IE, DE, CLIA, LF	Recombinant chimeric antigen

For diagnosis of the disease in cattle.

***Specific Antibodies**: Polyclonal antibody against Tuberculosis (p. 54)

WEST NILE VIRUS (WNV)

NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
E	RAG0001	*E. coli*	WB, DB, IE, DE	Envelope glycoprotein
	RAG0065	*P. pastoris*	WB, DB, IE, DE, CLIA, LF	

For diagnosis of the disease in birds and mammals, common in horses.

WB: Western Blot
DB: Dot Blot
IE: Indirect ELISA
DE: positive control in direct ELISA
CLIA: Chemiluminescent Immunoassay
LF: Lateral Flow
CE: Capture ELISA
DAS: Double antigen sandwich
NP: nanoparticles binding
PO: plate orientation

Pack size: 0.1 mg*; 1 mg; bulk
Format: liquid; lyophilised
*under availability, for liquid format

Top product (Satisfaction guarantee)

ALLERGIES

Rekom Biotech also offers **recombinant proteins** for *in vitro* diagnosis of allergies (type I allergic disorders).

A wide variety of protean **allergens** from our environment are proteins coming from food, dust mites, pollens from trees and grasses; and other natural products. These environmental proteins come primarily from non-pathogenic eukaryotic organisms (animals and plants) and are essentially innocuous. However, in some cases, our immune system reacts to them, unintentionally causing damage to our tissues and vital organs that occasionally generates serious systemic pathologies.

The development of **recombinant allergens** provides new opportunities for the improvement of the diagnosis of immunoglobulin E (IgE) mediated allergies, given that they present capacity for binding these antibodies in a comparable way to natural allergens and generally show good reactivity in *in vitro* **diagnostic test**. For this reason, recombinant allergens are of a great interest to both the research field and the development of new diagnostic test for **IgE quantification** in the clinical routine. The measure of circulating IgE antibodies specific for a determined allergen provides information about the patient sensitisation to this allergen. In general, low IgE levels would indicate a low probability of developing a clinical disease, while high IgE levels would show a high correlation of developing disease.

Our recombinant allergens have been evaluated by means of an external study developed by a group of prestigious allergists at the Virgen de la Macarena Hospital in Seville (Spain), using samples from positive and negative patient sera. In these tests, specific IgE has been determined by the skin prick test (SPT) and the UniCAP® test. From these assays, we obtained incidence data for each antigen, which we later compared with that described in the literature, obtaining a very good correlation. Through an adequate diagnostic test incorporating our proteins, it would be possible to determine the allergen to which the patient is reacting and the levels of specific IgE to this allergen. This quantification will allow to

predict more accurately the chance of the patient developing an allergy, and thus the need for appropriate treatment.

We design and produce recombinant proteins for allergies caused by domestic animals and indoor allergens, pollen, mold and food. Take a look at our portfolio!

DOMESTIC ANIMALS AND INDOOR

POLLEN

MOLD

FOOD

INDOOR

Can f 5

Equ c1

Equ c 1

Der f 2

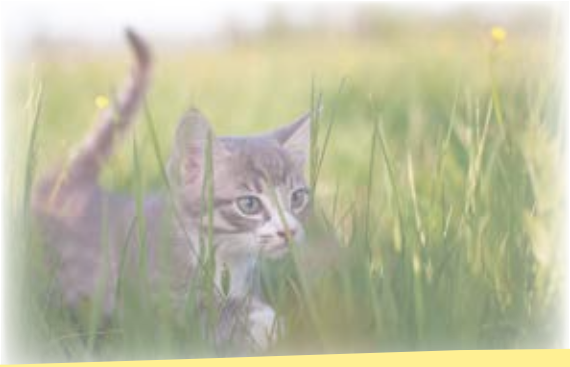
Fel d 1

Der p 10

Lep d 2

ANIMAL				
NAME	**CAT NUMBER**	**SOURCE**	**APPLICATION**	**DESCRIPTION**
Fel d 1	**RAL0023**	*P. pastoris*	WB, DB, IE, DE, CLIA, LF	For Cat (*Felis domesticus*). Uteroglobin (chain 1)
Can f 1	**RAL0016**	*E. coli*	WB, DB, IE, DE, CLIA, LF	For Dog (*Canis familiaris*). Lipocalin
	RAL0026	*P. pastoris*	WB, DB, IE, DE, CLIA, LF	
Can f 5	**RAL0014**	*P. pastoris*	WB, DB, IE, DE, CLIA, LF	For Dog urine (*Canis familiaris*). Arginine esterase, prostatic kallikrein
Equ c 1	**RAL0007**	*E. coli*	WB, DB, IE, DE, CLIA, LF	For Domestic Horse (*Equus caballus*). Lipocalin
	RAL0022	*P. pastoris*	WB, DB, IE, DE, CLIA, LF	
DUST MITES				
NAME	**CAT NUMBER**	**SOURCE**	**APPLICATION**	**DESCRIPTION**
Der f 2	**RAL0013**	*P. pastoris*	WB, DB, IE, DE, CLIA, LF	For American house dust mite (*Dermatophagoides farinae*). NPC2 family
Der p 10	**RAL0015**	*E. coli*	WB, DB, IE, DE, CLIA, LF	For European house dust mite (*Dermatophagoides pteronyssinus*). Tropomyosin
Lep d 2	**RAL0008**	*P. pastoris*	WB, DB, IE, DE, CLIA, LF	For Storage mite (*Lepidoglyphus destructor*). NPC2 family

WB: Western Blot
DB: Dot Blot
IE: Indirect ELISA
DE: positive control in direct ELISA
CLIA: Chemiluminescent Immunoassay
LF: Lateral Flow
CE: Capture ELISA
DAS: Double antigen sandwich
NP: nanoparticles binding
PO: plate orientation



Pack size: 0.1 mg*; 1 mg; bulk
Format: liquid; lyophilised
*under availability, for liquid format

Top product (Satisfaction guarantee)

bioallergens

POLLEN

Art v 1
Art v 1
Art v 3
Art v 3
Bet v 1
Bet v 1
Bet v 4
Bet v 4
Par j 2
Par j 2
Pla a 1
Pla a 1
Pla a 3
Pla a 3
Sal k 1
Sal k 1
Phl p 5a
Phl p 5a
Phl p 12
Phl p 12
Phl p 5b
Phl p 5b
Ole e 5
Ole e 5
Ole e 1
Ole e 1
Ole e 2
Ole e 2
Phl p 1
Phl p 1
Phl p 7
Phl p 7

EUROPEAN WHITE BIRCH *(Betula verrucosa)*				
NAME	**CAT NUMBER**	**SOURCE**	**APPLICATION**	**DESCRIPTION**
Bet v 1	**RAL0011**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Pathogenesis-related protein (PR-10)
Bet v 4	**RAL0009**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Polcalcin
LONDON PLANE TREE *(Platanus acerifolia)*				
NAME	**CAT NUMBER**	**SOURCE**	**APPLICATION**	**DESCRIPTION**
Pla a 1	**RAL0019**	*P. pastoris*	WB, DB, IE, DE, CLIA, LF	Invertase inhibitor
Pla a 3	**RAL0021**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Non-specific lipid transfer protein type 1 (LTP)
MUGWORT POLLEN *(Artemisia vulgaris)*				
NAME	**CAT NUMBER**	**SOURCE**	**APPLICATION**	**DESCRIPTION**
Art v 1	**RAL0005**	*P. pastoris*	WB, DB, IE, DE, CLIA, LF	Defensin-like protein
Art v 3	**RAL0006**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Non-specific lipid transfer protein type 1 (LTP)
	RAL0048	*P. pastoris*	WB, DB, IE, DE, CLIA, LF	
OLIVE TREE *(Olea europaea)*				
NAME	**CAT NUMBER**	**SOURCE**	**APPLICATION**	**DESCRIPTION**
Ole e 1	**RAL0012**	*P. pastoris*	WB, DB, IE, DE, CLIA, LF	Proteins similar to Ole e 1
Ole e 2	**RAL0010**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Profilin
Ole e 5	**RAL0047**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Superoxide dismutase [Cu-Zn]

WB: Western Blot
DB: Dot Blot
IE: Indirect ELISA
DE: positive control in direct ELISA
CLIA: Chemiluminescent Immunoassay
LF: Lateral Flow
CE: Capture ELISA
DAS: Double antigen sandwich
NP: nanoparticles binding
PO: plate orientation

Pack size: 0.1 mg*; 1 mg; bulk
Format: liquid; lyophilised
*under availability, for liquid format

Top product (Satisfaction guarantee)

PELLITORY-OF-THE-WALL *(Parietaria judaica)*				
NAME	**CAT NUMBER**	**SOURCE**	**APPLICATION**	**DESCRIPTION**
Par j 2	**RAL0020**	*P. pastoris*	WB, DB, IE, DE, CLIA, LF	Phospholipid transfer protein (LTP)
RUSSIAN THISTLE *(Salsola kali)*				
NAME	**CAT NUMBER**	**SOURCE**	**APPLICATION**	**DESCRIPTION**
Sal k 1	**RAL0018**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Pectin methylesterase
TIMOTHY GRASS POLLEN *(Phleum pratense)*				
NAME	**CAT NUMBER**	**SOURCE**	**APPLICATION**	**DESCRIPTION**
Phl p 1	**RAL0001**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Beta-expansin
Phl p 5a	**RAL0003**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Unknown
	RAL0003BIOT	*E. coli*	WB, DB, CE, NP, PO	Phl p 5a biotinylated
Phl p 5b	**RAL0017**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Unknown
Phl p 7	**RAL0002**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Polcalcin
Phl p 12	**RAL0004**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Profilin

WB: Western Blot
DB: Dot Blot
IE: Indirect ELISA
DE: positive control in direct ELISA
CLIA: Chemiluminescent Immunoassay
LF: Lateral Flow
CE: Capture ELISA
DAS: Double antigen sandwich
NP: nanoparticles binding
PO: plate orientation

Pack size: 0.1 mg*; 1 mg; bulk
Format: liquid; lyophilised
*under availability, for liquid format

Top product (Satisfaction guarantee)

MOLD

Alt a 1
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ALTERNARIA PLANT ROT FUNGUS *(Alternaria alternata)*				
NAME	**CAT NUMBER**	**SOURCE**	**APPLICATION**	**DESCRIPTION**
Alt a 1	**RAL0025**	*P. pastoris*	WB, DB, IE, DE, CLIA, LF	Unknown

WB: Western Blot
DB: Dot Blot
IE: Indirect ELISA
DE: positive control in direct ELISA
CLIA: Chemiluminescent Immunoassay
LF: Lateral Flow
CE: Capture ELISA
DAS: Double antigen sandwich ELISA
NP: nanoparticles binding
PO: plate orientation

Pack size: 0.1 mg*; 1 mg; bulk
Format: liquid; lyophilised
*under availability, for liquid format

Top product (Satisfaction guarantee)

FOOD

Tri a 19

Ara h 9

Ara h 2

αS1-casein

β-lactoglobulin

αS2-casein

α-lactalbumin

Gal d 1

Gad c 1

κ-casein

β-casein

Mal d 3

CEREAL				
NAME	**CAT NUMBER**	**SOURCE**	**APPLICATION**	**DESCRIPTION**
Tri a 19	**RAL0053**	*E. coli*	WB, DB, IE, DE	For Wheat (*Triticum aestivum*). Omega-5 gliadin, seed storage protein
	RAL0053BIOT	*E. coli*	WB, DB, CE, NP, PO	Tri a 19 biotinylated
FISH				
NAME	**CAT NUMBER**	**SOURCE**	**APPLICATION**	**DESCRIPTION**
Gad c 1	**RAL0035**	*E. coli*	WB, DB, IE, DE, CLIA, LF	For Baltic cod (*Gadus callarias*). Beta-parvalbumin
		EGG		
NAME	**CAT NUMBER**	**SOURCE**	**APPLICATION**	**DESCRIPTION**
Gal d 1	**RAL0033**	*P. pastoris*	WB, DB, IE, DE, CLIA, LF	For Chicken egg (*Gallus domesticus*). Ovomucoid
MILK				
NAME	**CAT NUMBER**	**SOURCE**	**APPLICATION**	**DESCRIPTION**
αS1-casein	**RAL0027**	*E. coli*	WB, DB, IE, DE, CLIA, LF	For Caw milk (*Bos domesticus*). Casein, oka. Bos d 9
β-casein	**RAL0029**	*E. coli*	WB, DB, IE, DE, CLIA, LF	For Caw milk (*Bos domesticus*). Casein, oka. Bos d 11
β-lactoglobulin	**RAL0032**	*P. pastoris*	WB, DB, IE, DE, CLIA, LF	For Caw milk (*Bos domesticus*). Beta-lactoglobulin, oka. Bos d 5
α-lactalbumin	**RAL0031**	*E. coli*	WB, DB, IE, DE, CLIA, LF	For Caw milk (*Bos domesticus*). Alpha-lactalbumin, oka. Bos d 4
αS2-casein	**RAL0028** new!	*E. coli*	WB, DB, IE, DE, CLIA, LF	For Caw milk (*Bos domesticus*). Casein, oka. Bos d 10
κ-casein	**RAL0030** new!	*E. coli*	WB, DB, IE, DE	For Caw milk (*Bos domesticus*). Casein, oka. Bos d 12

WB: Western Blot
DB: Dot Blot
IE: Indirect ELISA
DE: positive control in direct ELISA
CLIA: Chemiluminescent Immunoassay
LF: Lateral Flow
CE: Capture ELISA
DAS: Double antigen sandwich
NP: nanoparticles binding
PO: plate orientation

Pack size: 0.1 mg*; 1 mg; bulk
Format: liquid; lyophilised
*under availability, for liquid format

Top product (Satisfaction guarantee)

PEANUT, GROUNDNUT				
NAME	**CAT NUMBER**	**SOURCE**	**APPLICATION**	**DESCRIPTION**
Ara h 9	**RAL0049** new!	*P. pastoris*	WB, DB, IE, DE, CLIA, LF	For peanut, groundnut (*Arachis hypogaea*). Nonspecific lipid-transfer protein type 1
Ara h 2	**RAL0040** new!	*P. pastoris*	WB, DB, IE, DE, CLIA, LF	For peanut, groundnut (*Arachis hypogaea*). Conglutin (2S albumin)
ROSACEOUS				
NAME	**CAT NUMBER**	**SOURCE**	**APPLICATION**	**DESCRIPTION**
Mal d 3	**RAL0039**	*E. coli*	WB, DB, IE, DE, CLIA, LF	For Apple (*Malus domestica*). Non-specific lipid transfer protein type 1 (nsLTP1)

WB: Western Blot
DB: Dot Blot
IE: Indirect ELISA
DE: positive control in direct ELISA
CLIA: Chemiluminescent Immunoassay
LF: Lateral Flow
CE: Capture ELISA
DAS: Double antigen sandwich
NP: nanoparticles binding
PO: plate orientation

Pack size: 0.1 mg*; 1 mg; bulk
Format: liquid; lyophilised
*under availability, for liquid format

Top product (Satisfaction guarantee)

External validation

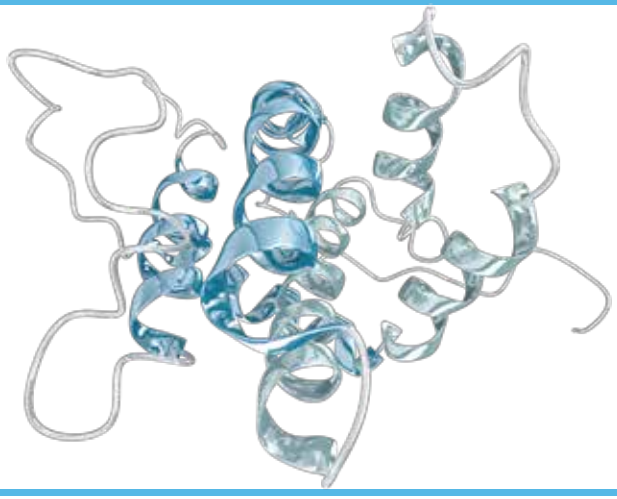
Our bioallergens have been evaluated in an external study carried out at a Spanish hospital by a group of allergists with positive and negative serum samples from patients. The evaluation of the recombinant allergens has been performed by means of an *in-house* ELISA assay. In this immunoassay, it has been determined the presence of specific IgE in sera that had previously been validated by skin prick testing (SPT) and the UniCAP® test. The sera panels specific for each group of allergens were composed of 25 positive sera and 10 total IgE negative specimen sera.

The following chart shows the good correlation found between the incidence rates described in bibliography and the incidence rates found in the external study carried out by the hospital with our bioallergens:

GROUP	ALLERGEN	CAT NUMBER	INCIDENCE RATES	
			BIBLIOGRAPHY	HOSPITAL VALIDATION
Timothy grass	Phl p 1	RAL0001	70%-100%	92%
	Phl p 5a	RAL0003	60%-93%	60%
	Phl p 5b	RAL0017	60%-93%	56%
	Phl p 7	RAL0002	10%	44%
	Phl p 12	RAL0004	20%	36%
Olive	Ole e 1	RAL0012	70%	100%
	Ole e 2	RAL0010	20%-47%	40%
Animal epithelial	Can f 1	RAL0016	90%	84%-100%
	Fel d 1	RAL0023	90%	76%-84%
Dust mites	Der f 2	RAL0013	98%	78%
	Der p 10	RAL0015	5.6%	5.6%
	Lep d 2	RAL0008	>75%	72%
Russian thistle	Sal k 1	RAL0018	66.66%	67.67%

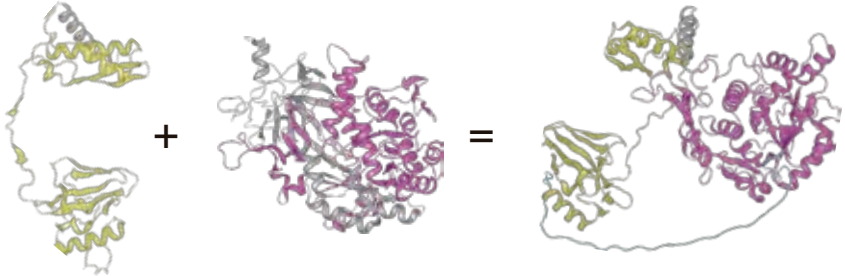
ONGOING RESEARCH FOR OTHER ALLERGEN GROUPS

CHIMERAS



At Rekom Biotech, we use computational methods to access structural models of antigenic molecules. This allows us to select specific antigenic domains from different proteins. We then combine them using long, short, flexible, or rigid linkers to enable simultaneous interaction of every epitope with its corresponding paratope. By avoiding steric hindrance, by using the appropriate linker, two or three different antibodies can interact with the multi-epitope molecule, **increasing sensitivity**. Our chimeric multi-epitope proteins are also **highly specific** as we select domains that differentiate this microorganism from its counterparts.

In addition, using multi-epitope chimeric proteins has another significant benefit of **eliminating the need for protein mixtures in assays**. When using protein mixtures, the limited number of binding sites and varying affinities of proteins for these sites may lead to issues with reproducibility.



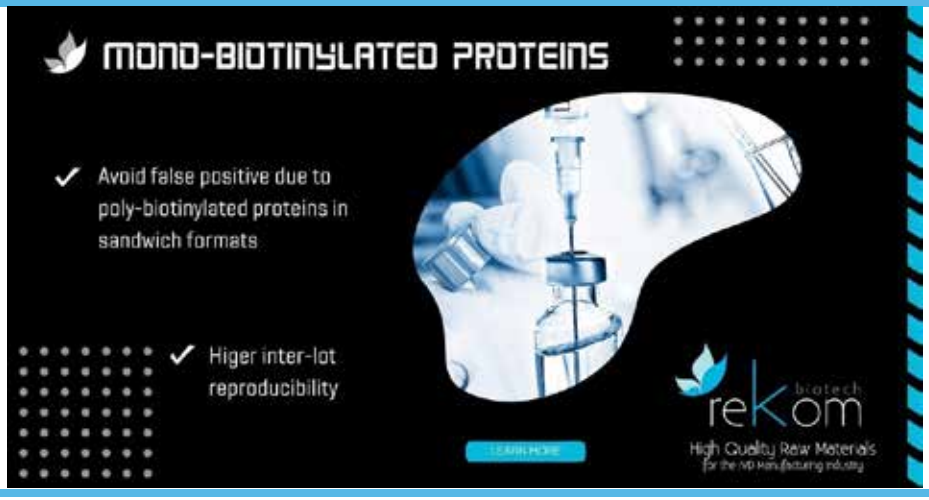
NAME	CAT NUMBER	SOURCE	APPLICATION	DISEASE / MICROORGANISM
ChimBc	**RAG0040** (*Bc*)	*E. coli*	WB, DB, IE, DE, CLIA, LF	Babesiosis (or piroplasmosis)
ChimBg	**RAG0045** (*Bg*)	*E. coli*	WB, DB, IE, DE, CLIA, LF	
ChimChagas1	**RAG0093**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Chagas (*Trypanosoma cruzi*)
ChimChagas2	**RAG0094**	*E. coli*	WB, DB, IE, DE, CLIA, LF	
ChimChagas3	**RAG0096**	*E. coli*	WB, DB, IE, DE, CLIA, LF	
	RAG0096BIOT	*E. coli*	WB, DB, CE, DAS, NP, PO	
ChimCMV1	**RAG0109**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Cytomegalovirus
	RAG0109BIOT	*E. coli*	WB, DB, CE, NP, PO	
ChimCMV2	**RAG0110**	*E. coli*	WB, DB, IE, DE, CLIA, LF	
	RAG0110BIOT	*E. coli*	WB, DB, CE, NP, PO	
ChimCMV3	**RAG0018**	*E. coli*	WB, DB, IE, DE, CLIA, LF	
ChimDiT33	**RAG0014**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Dirofilariasis (*Dirofilaria immitis*)
ChimEBV-EA	**RAG0082**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Epstein-Barr virus
ChimEBV-VCA	**RAG0081**	*E. coli*	WB, DB, IE, DE, CLIA, LF	
ChimSyphilis1	**RAG0046**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Syphilis (*Treponema pallidum*)
	RAG0046BIOT	*E. coli*	WB, DB, CE, DAS, NP, PO	
ChimSyphilis2	**RAG0064**	*E. coli*	WB, DB, IE, DE, CLIA, LF	
	RAG0064BIOT	*E. coli*	WB, DB, CE, DAS, NP, PO	
ChimToxo1	**RAG0058**	*P. pastoris*	WB, DB, IE, DE, CLIA, LF	Toxoplasmosis (*Toxoplasma gondii*)
CFP10:ESAT6	**RAG0060**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Tuberculosis (*Mycobacterium tuberculosis*)
VlsE	**RAG0027** (*Bb*)	*E. coli*	WB, DB, IE, DE, CLIA, LF	Lyme borreliosis
	RAG0022 (*Bg*)	*E. coli*	WB, DB, IE, DE, CLIA, LF	

WB: Western Blot
DB: Dot Blot
IE: Indirect ELISA
DE: positive control in direct ELISA
CLIA: Chemiluminescent Immunoassay
LF: Lateral Flow
CE: Capture ELISA
DAS: Double antigen sandwich
NP: nanoparticles binding
PO: plate orientation

Pack size: 0.1 mg*; 1 mg; bulk
Format: liquid; lyophilised
*under availability, for liquid format

Top product (Satisfaction guarantee)

MONOBIOTINYLATED PROTEINS



In Rekom Biotech we have developed a product line of monobiotinylated proteins, offering some of our catalog numbers with a biotin in their C-terminus. This molecule allows the specific interaction of biotinylated proteins to streptavidin.

Our biotinylated proteins are bonded to a BCCP-tag in the C-terminus, with a lysine residue which is enzymatically biotinylated by the E. coli biotin ligase BirA. This single-point labelling technique has many advantages for commonly used binding assays:

- The biotinylation only happens on the lysine residue of the BCCP tag.
- There is NO interference with the target protein's natural binding activities.
- The protein orientation is uniform when immobilized on a streptavidin-coated surface such as nanoparticles.

AIDS (HIV)				
NAME	**CAT NUMBER**	**SOURCE**	**APPLICATION**	**DESCRIPTION**
p24	**RAG0057BIOT**	*E. coli*	WB, DB, CE, NP, PO	Viral capsid antigen
CANINE BABESIOSIS (CANINE PIROPLASMOSIS)				
NAME	**CAT NUMBER**	**SOURCE**	**APPLICATION**	**DESCRIPTION**
BcMSA1	**RAG0020BIOT**	*P. pastoris*	WB, DB, CE, NP, PO	Merozoite Surface Antigen for *Babesia canis*
CHAGAS (*Trypanosoma cruzi*)				
NAME	**CAT NUMBER**	**SOURCE**	**APPLICATION**	**DESCRIPTION**
ChimChagas3	**RAG0096BIOT**	*E. coli*	WB, DB, CE, DAS, NP, PO	Recombinant chimeric antigen
CYTOMEGALOVIRUS (CMV)				
NAME	**CAT NUMBER**	**SOURCE**	**APPLICATION**	**DESCRIPTION**
pp52	**RAG0090BIOT**	*E. coli*	WB, DB, CE, NP, PO	DNA polymerase processivity subunit
ChimCMV1	**RAG0109BIOT**	*E. coli*	WB, DB, CE, NP, PO	Recombinant chimeric antigen
ChimCMV2	**RAG0110BIOT**	*E. coli*	WB, DB, CE, NP, PO	Recombinant chimeric antigen
Epstein-Barr virus infection (EBV)				
NAME	**CAT NUMBER**	**SOURCE**	**APPLICATION**	**DESCRIPTION**
p18	**RAG0049BIOT**	*E. coli*	WB, DB, CE, NP, PO	Viral capsid antigen
Leishmaniasis (*Leishmania infantum*)				
NAME	**CAT NUMBER**	**SOURCE**	**APPLICATION**	**DESCRIPTION**
K39	**RAG0061BIOT**	*E. coli*	WB, DB, CE, DAS, NP, PO	Parasite kinesin-related antigen

WB: Western Blot
DB: Dot Blot
IE: Indirect ELISA
DE: positive control in direct ELISA
CLIA: Chemiluminescent Immunoassay
LF: Lateral Flow
CE: Capture ELISA
DAS: Double antigen sandwich
NP: nanoparticles binding
PO: plate orientation

Pack size: 0.1 mg*; 1 mg; bulk
Format: liquid; lyophilised
*under availability, for liquid format

Top product (Satisfaction guarantee)

NEOSPOROSIS *(Neospora caninum)*

NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
NcGRA7	RAG0024BIOT	*E. coli*	WB, DB, CE, NP, PO	*Nc* dense granule antigen GRA7

ORAL HERPES produced by HSV-1 (Herpes simplex virus type 1)

NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
gG1	RAG0017BIOT	*E. coli*	WB, DB, CE, NP, PO	Recombinant mature glycoprotein G for HSV-1

TIMOTHY GRASS POLLEN *(Phleum pratense)*

NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
Phl p 5a	RAL0003BIOT	*E. coli*	WB, DB, CE, NP, PO	Phl p 5a

SYPHILIS *(Treponema pallidum)*

NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
Tpp15	RAG0009BIOT	*E. coli*	WB, DB, CE, DAS, NP, PO	Membrane lipoprotein
Tpp17	RAG0008BIOT	*E. coli*	WB, DB, CE, DAS, NP, PO	Membrane lipoprotein
Tpp47	RAG0010BIOT	*E. coli*	WB, DB, CE, DAS, NP, PO	Membrane lipoprotein
ChimSyphilis1	RAG0046BIOT	*E. coli*	WB, DB, CE, DAS, NP, PO	R. chimeric antigen (Tpp17 and Tpp47)
ChimSyphilis2	RAG0064BIOT	*E. coli*	WB, DB, CE, DAS, NP, PO	R. chimeric antigen (Tpp15 and TmpA)

CEREAL

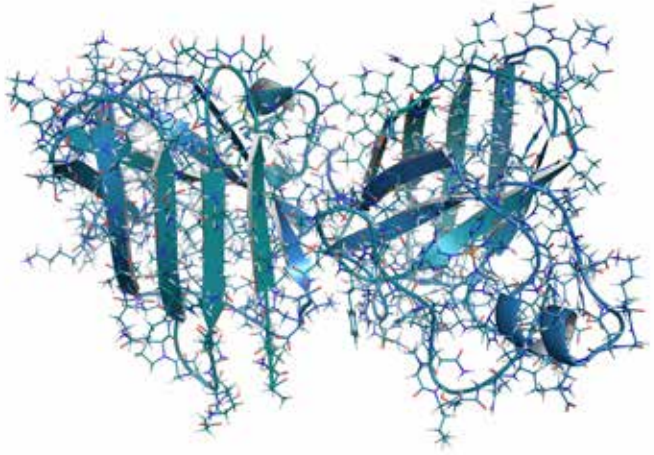
NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
Tri a 19	RAL0053BIOT	*E. coli*	WB, DB, CE, NP, PO	Omega-5 gliadin, seed storage protein

WB: Western Blot
DB: Dot Blot
IE: Indirect ELISA
DE: positive control in direct ELISA
CLIA: Chemiluminescent Immunoassay
LF: Lateral Flow
CE: Capture ELISA
DAS: Double antigen sandwich
NP: nanoparticles binding
PO: plate orientation

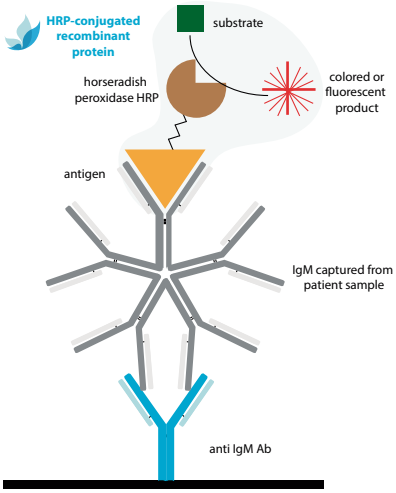
Pack size: 0.1 mg*; 1 mg; bulk
Format: liquid; lyophilised
*under availability, for liquid format

Top product (Satisfaction guarantee)

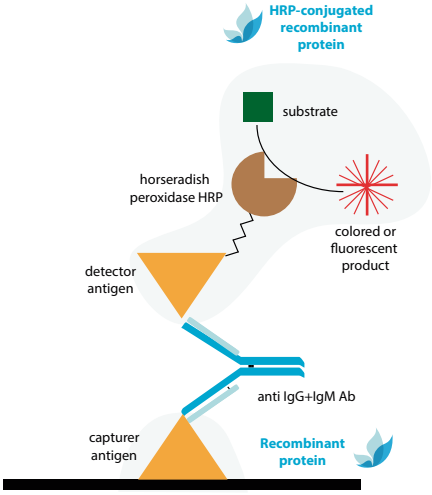
HRP-CONJUGATED PROTEINS



In case you want to develop a Capture ELISA or a Double Antigen Sandwich (DAS) ELISA assay and you do not have time or means to conjugate our protein to HorseRadish Peroxidase (HRP), we offer HRP-conjugated proteins for some of our catalog numbers.



Capture ELISA



DAS ELISA

CHAGAS *(Trypanosoma cruzi)*				
NAME	**CAT NUMBER**	**SOURCE**	**APPLICATION**	**DESCRIPTION**
ChimChagas1	**RAG0093**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Recombinant chimeric antigen
ChimChagas2	**RAG0094**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Recombinant chimeric antigen
ChimChagas3	**RAG0096**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Recombinant chimeric antigen
CYTOMEGALOVIRUS (CMV)				
NAME	**CAT NUMBER**	**SOURCE**	**APPLICATION**	**DESCRIPTION**
pp52	**RAG0090**	*E. coli*	WB, DB, IE, DE, CLIA, LF	DNA polymerase processivity subunit
pp150	**RAG0091**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Viral matrix phosphoprotein
ChimCMV1	**RAG0109**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Recombinant chimeric antigen
Epstein-Barr virus infection (EBV)				
NAME	**CAT NUMBER**	**SOURCE**	**APPLICATION**	**DESCRIPTION**
p18	**RAG0049**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Viral capsid antigen
Leishmaniasis *(Leishmania infantum)*				
NAME	**CAT NUMBER**	**SOURCE**	**APPLICATION**	**DESCRIPTION**
K39	**RAG0061**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Parasite kinesin-related antigen
ORAL HERPES produced by HSV-1 *(Herpes simplex virus type 1)*				
NAME	**CAT NUMBER**	**SOURCE**	**APPLICATION**	**DESCRIPTION**
gG1	**RAG0017**	*E. coli*	WB, DB, IE, DE, CLIA, LF	Recombinant mature glycoprotein G for HSV-1

WB: Western Blot
DB: Dot Blot
IE: Indirect ELISA
DE: positive control in direct ELISA
CLIA: Chemiluminescent Immunoassay
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CE: Capture ELISA
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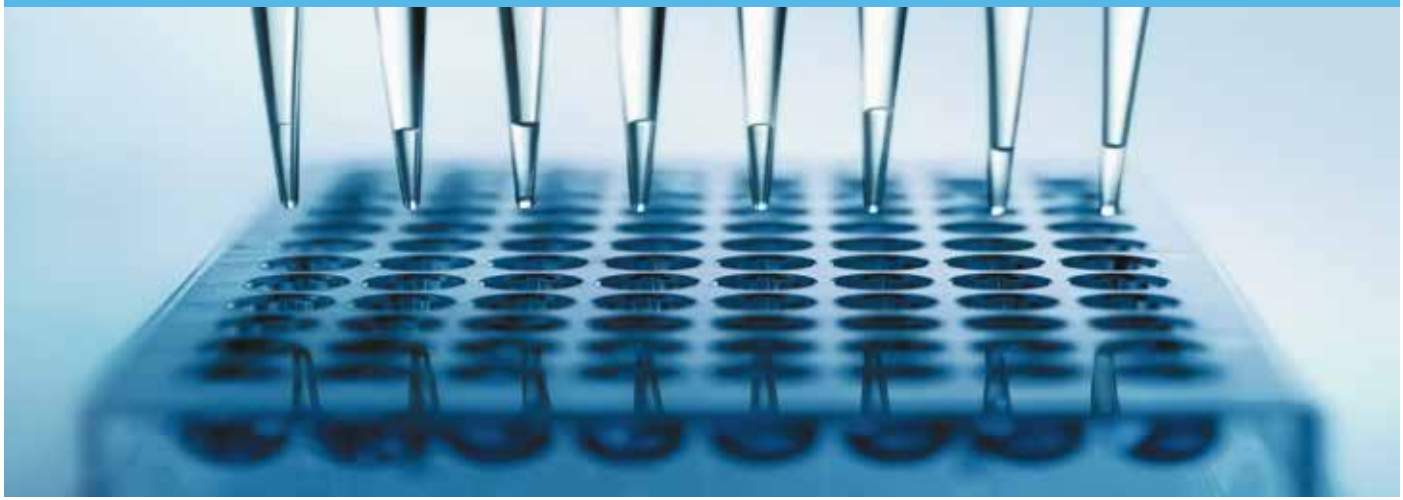
Pack size: 0.1 mg*; 1 mg; bulk
Format: liquid; lyophilised
*under availability, for liquid format

Top product (Satisfaction guarantee)

CUSTOM-MADE PROTEINS



If you are a manufacturer of *in vitro* diagnostic tests, and you want to develop a new assay, but you cannot find the right appropriate IVD reagent on the market, we offer our design and production service of custom-made **recombinant proteins**. This service includes the initial design of the protein and its optimal production in ***Escherichia coli*** or in ***Pichia pastoris*** as heterologous expression systems.

We like to work closely with our customers to understand their problems and provide them with products totally adapted to their needs. Do not hesitate to contact us! We will develop a custom plan to help you develop the test you are looking for.

SERVICE DETAILS

- The price of the service guarantees 3 to 5 mg of protein.
- Purity greater than 95%, analysed by SDS-PAGE Coomassie-stained gels.
- The purified protein can be sent with dry ice (liquid form) or at room temperature (lyophilized form), depending on the destination country.
- A detailed data-sheet including the characteristics of the recombinant protein and QC performed will be provided.
- The protein will be avaliable for futher bulk orders at reduced price by increasing the required amounts.
- The custom-made service project will be divided into various work milestones. Each milestone will consist of a series of phases whose development will be explained in the quotation.

Study of the project
Study of the gene sequence, theoretical sequence analysis, selection of a heterologous expression system, selection of the optimal expression vector, design of the specific primers, codon optimization of the gene, etc.

DNA construction
Amplification by PCR, clone of the target DNA in a selected expression vector, validation of the selected clone by sequencing and restriction analysis. Possibility of using different fusion tails and different secretion peptides

Optimisation of expression levels
Screening and selection of induction conditions, expression and solubility, MCB and WCB stocks production, for reproducibility of future lots, etc.

Upstream procedure
Obtention of the seed in batch by shaker and scale-up to bio-fermenters

Downstream procedure
Design of the complete process of purification of the target protein by using different chromatographic procedures, ultrafiltration, diafiltration, etc.

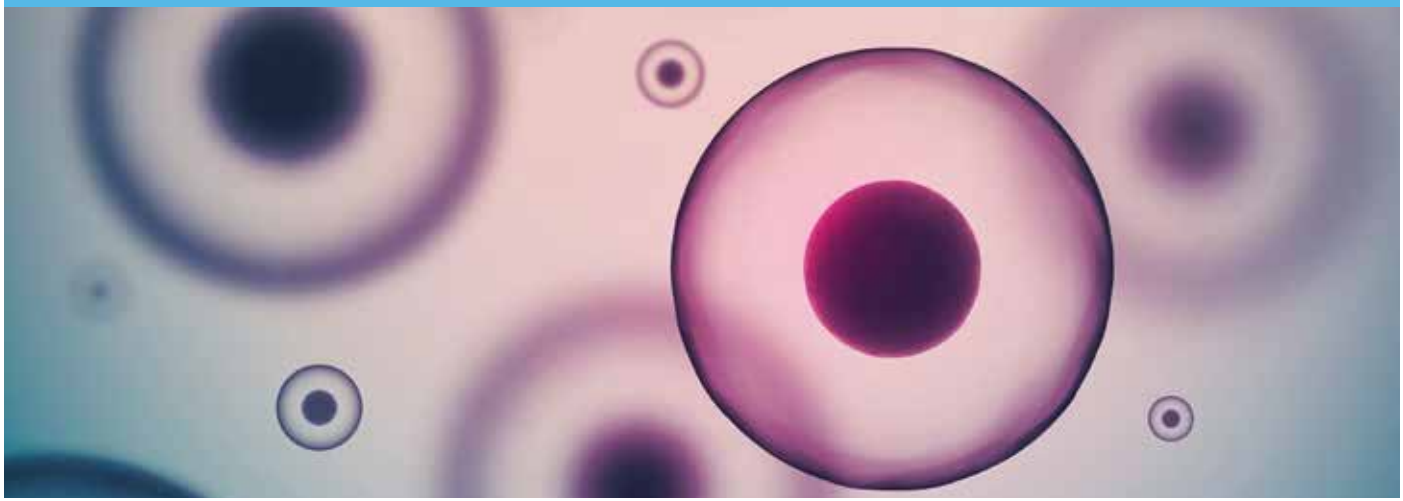
Formulation
Optimization of the formulation of the protein storage buffer based on the use that will be subsequently given to the required protein

Quality control
Purity, integrity, stability, macroaggregation and microaggregation (SEC), western blot analysis, Maldi-TOF and inmunoassays (western blot, ELISA)

Project information
Keeping you constantly informed on the project progress

Protein delivery
Storage in sterile labeled plastic vials at -80ºC until release. Shipped with dry ice as a refrigerant. Possibility of offering lyophilized protein.

IMMUNOASSAY BLOCKERS

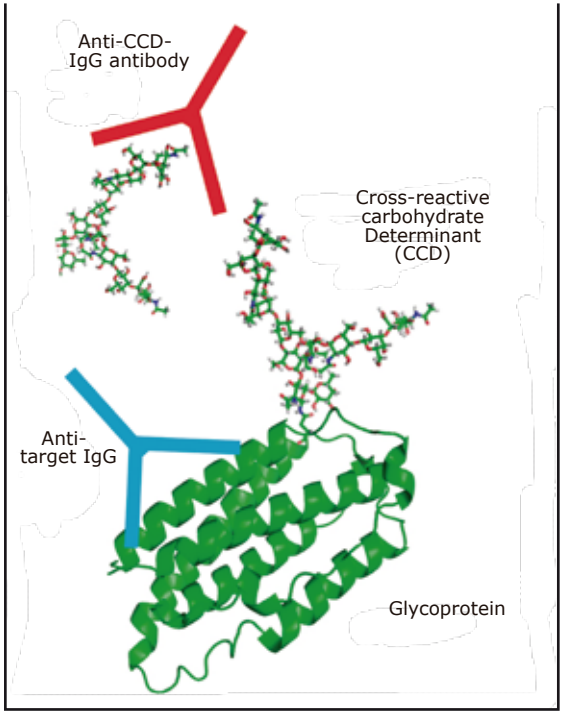


At Rekom Biotech we want to offer you more than just raw material for your *in vitro* diagnostics tests. That is why we have created a line of immunoassay blockers, so you can add them to your IVD assays and solve some of the problems you find in your workday routine.

Immunoassay blockers are used in diagnostic assays to reduce non-specific binding and other interference than could lead to false-positive results and, thus, an incorrect diagnosis. The blockers work by reducing the non-specific binding, increasing the signal-to-noise ratio. They can avoid (i) unspecific interactions with the solid-phase, and non-target proteins; (ii) and specific interactions with endogenous antibodies present within the specimen sample, which are not the specific target antibodies. An example of the latter are antibody interferences from HAMA, HA, RF and IgG (for IgM detection).

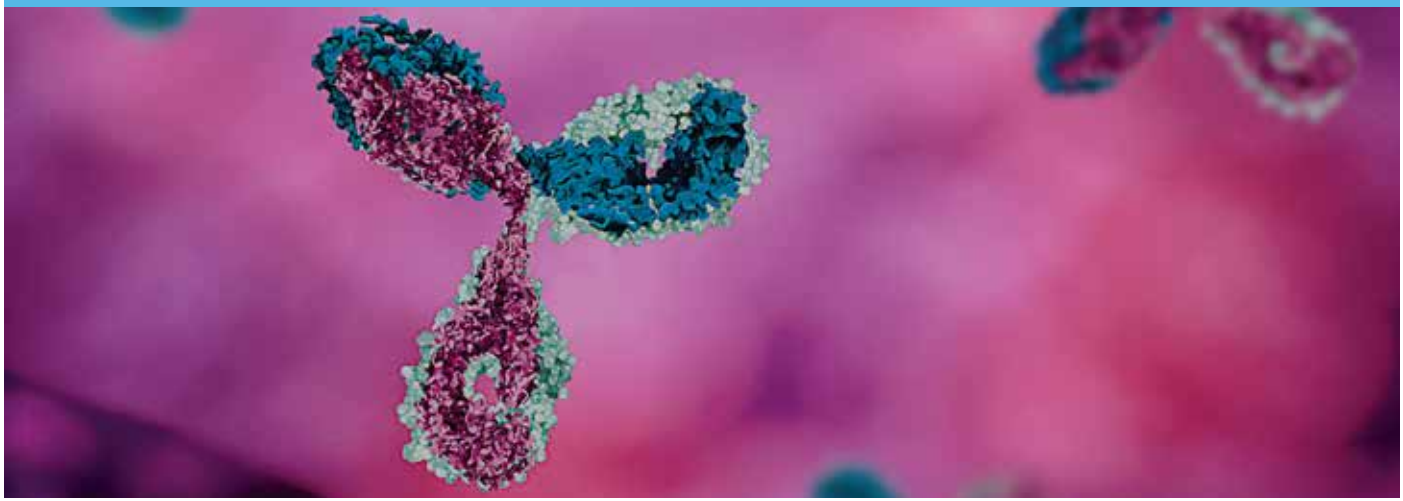
NAME	CAT NUMBER	DESCRIPTION
Blocker for anti-cross-reactive carbohydrate determinants (CCD) antibodies	**SOR0001**	Solution of several glycoconjugates

Pack size: 1 mg
Format: lyophilised



Some human normal sera contains IgG antibodies against mannan from various pathogenic Candida species. This makes them able to interact with CCD structures of the proteins produced in *Pichia pastoris*. With the addition of this blocker, the anti-CCD antibodies will be kidnapped, so the specificity of the assay will increase.

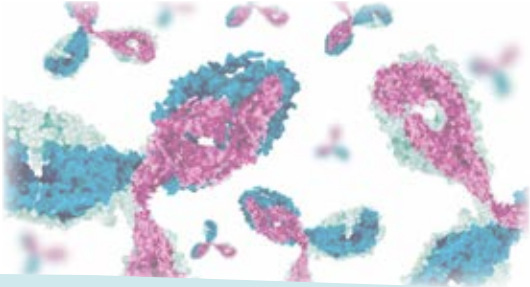
ANTIBODIES



In Rekom Biotech we have opted for a new range of antibodies for the *in vitro* diagnostic industry, starting with **polyclonal antibodies.**

Polyclonal antibodies are able to recognize multiple epitopes of an antigen, and this usually leads to a strong signal. Furthermore, we reduce the broader background obtained by using an affinity chromatography. They are the right ones to choose when you need cost efficient and high affinity antibodies. They are mainly used in capture assays of a specific antigen in specimen samples (**antigen test**).

Our goal is to offer the *in vitro* diagnostics sector a growing catalog of polyclonal antibodies, starting with those corresponding to our most requested proteins. Take a look at our portfolio!



CYTOMEGALOVIRUS (CMV)

NAME	CAT NUMBER	SOURCE	IMMUNOGEN	APPROX. TITER	DESCRIPTION
Anti-pp52	**PAB0001**	Rabbit	RAG0090 (p. 12)	WB: 1/3,000-1/3,500 ELISA: 1/25,600-1/51,200	Polyclonal antibody against pp52
Anti-pp150	**PAB0002**	Rabbit	RAG0091 (p. 12)	WB: 1/3,000 ELISA: 1/12,800 - 1/25,600	Polyclonal antibody against pp150
Anti-pp65	**PAB0003**	Rabbit	RAG0016 (p. 12)	WB: 1/4,500-1/5,000 ELISA: 1/51,200-1/102,400	Polyclonal antibody against pp65

Anti-cross-reactive carbohydrate determinants (CCD) antibodies

NAME	CAT NUMBER	SOURCE	IMMUNOGEN	APPROX. TITER	DESCRIPTION
Anti-CCD	**PAB0004**	Rabbit	SOR0001 (p. 42)	WB: 1/4,500-1/5,000 ELISA: 1/102,400-1/204,800	Polyclonal antibody against CCD

TOXOPLASMOSIS *(Toxoplasma gondii)*

NAME	CAT NUMBER	SOURCE	IMMUNOGEN	APPROX. TITER	DESCRIPTION
Anti-GRA7/ GRA8	**PAB0005**	Rabbit	RAG0083 (p. 10) RAG0084 (p. 10)	WB: 1:8,000-1:10,000 ELISA: 1/25,600 -1/204,800	Polyclonal antibody against GRA7 and GRA8
Anti-p30 (SAG1)	**PAB0010** new!	Rabbit	RAG0030 (p.10)	WB: 1:2,000-1:4,000 ELISA: 1/800 -1/102,400	Polyclonal antibody against SAG1

CHAGAS *(Trypanosoma cruzi)*

NAME	CAT NUMBER	SOURCE	IMMUNOGEN	APPROX. TITER	DESCRIPTION
Anti-Chagas	**PAB0007** new!	Rabbit	RAG0003 (p. 10) RAG0005 (p. 10) RAG0103 (p. 10)	WB: 1:8,000-1:10,000 ELISA: 1/1,638,400 - 1/12,800	Polyclonal antibody against 1F8, FRA and B13

HEPATITIS B (HBV)

NAME	CAT NUMBER	SOURCE	IMMUNOGEN	APPROX. TITER	DESCRIPTION
Anti-HBcAg	**PAB0008** new!	Rabbit	RAG0056 (p. 14)	WB: 1:8,000-1:10,000 ELISA: 1/6,400 - 1/819,200	Polyclonal antibody against HBcAg

TUBERCULOSIS *(Mycobacterium tuberculosis (Koch's bacillus)*

NAME	CAT NUMBER	SOURCE	IMMUNOGEN	APPROX. TITER	DESCRIPTION
Anti-TB	**PAB0009** new!	Rabbit	RAG0060 (p. 17)	WB: 1:8,000-1:10,000 ELISA: 1/6,400 - 1/819,200	Polyclonal antibody against CFP10, ESAT6.

Pack size: 0.1 mg; 0.5 mg
Format: lyophilised

CUSTOM-MADE ANTIBODIES

If you are a manufacturer of in vitro diagnostic tests, and you want to develop a new assay, but you cannot find the appropriate antibody on the market, we offer our production service of custom-made **polyclonal antibodies**.

We like to work closely with our customers to understand their problems and provide them with products totally adapted to their needs. Do not hesitate to contact us! We will develop a custom plan to help you develop the test you are looking for.

SERVICE DETAILS

- The price of the service guarantees up to 10 mg of antibody, aliquoted in 1 mg fractions.
- The purified antibody can be sent with dry ice (liquid form) or at room temperature (lyophilised form), depending on the destination country.
- A detailed data-sheet including the characteristics of the antibody and QC performed will be provided.
- The custom-made service project will be divided into various work milestones. Each milestone will consist of a series of phases whose development will be explained in the quotation.

Antibody generation
Immunization of a 10-week-old New Zealand white rabbit (female). Inoculations with a total of 5 mg of protein and bleeding at 3 months (approximately)

Antibody purification
Purification of the antibody obtained from immune blood by affinity chromatography (protein G)

Validation and quality control
ELISA and Western blot titration using the protein inoculated to the rabbit

Project information
Keeping you constantly informed on the project progress

Antibody delivery
Storage in sterile labeled plastic vials at -80ºC until release. Shipped with dry ice as a refrigerant. Possibility of offering lyophilized antibody

PIPELINE

At Rekom Biotech we carry out R&D&i projects for the development of new high quality IVD reagents for the *in vitro* diagnosis of human and animal infectious diseases, and allergies. Below we detail the IVD reagents that are under development.

If you are interested in other projects, do not hesitate to contact us and we will prepare a detailed quotation for the IVD reagent you want, because we also offer custom-made proteins.

Recombinant allergens

Design	Verification	Expression system	USP/DSP process tuning	Validation
Protein design from scratch, always trying to improve its antigenic capacity.	Search for the best DNA construction according to the design phase.	Selection of the best expression system for the protein.	Process adjustments to achieve an optimal seed, and the process to isolate our protein from the obtained seed.	Validation and full quality control.

Cas s 5 for *Castanea sativa* (allergy)

USP/DSP process tuning

Jug r 1 for *Juglans regia* (allergy)

USP/DSP process tuning

Recombinant antigens

Design	Verification	Expression system	USP/DSP process tuning	Validation
Protein design from scratch, always trying to improve its antigenic capacity.	Search for the best DNA construction according to the design phase.	Selection of the best expression system for the protein.	Process adjustments to achieve an optimal seed, and the process to isolate our protein from the obtained seed.	Validation and full quality control.

ChimASFV for African swine fever (ASF) (animal)

Validation

ChimLip for Leptospirosis caused by *Leptospira interrogans* (human, animal)

Validation

ChimMp for *Mycoplasma pneumoniae* Infection (human)

Validation

EDIIIDENV-4 isotypes for Dengue caused by *Flavivirus* (human)

Validation

VLP (core HBV) for Hepatitis B (human)

Validation

p130 for Cytomegalovirus infection (CMV) (human)

USP/DSP process tuning

EDENV1 for Dengue caused by *Flavivirus* (human)

USP/DSP process tuning

EDENV2 for Dengue caused by *Flavivirus* (human)

USP/DSP process tuning

EDENV3 for Dengue caused by *Flavivirus* (human)

USP/DSP process tuning

CagA (Domain I) for *Helicobacter pylori* Infection (human)

Design

CagA (Domain III) for *Helicobacter pylori* Infection (human)

Design

ChimHCV1 for Hepatitis C (human)

Design

HBsAg for Hepatitis B (human)

Design

p28/p30 for Ehrlichiosis caused by *Ehrlichia canis* (animal)

Design

QUALITY MANAGEMENT

Rekom Biotech is committed to ensure the highest quality level in the design and production of raw material for the IVD manufacturing industry.

Rekom Biotech products are designed, developed, manufactured and distributed according to our Quality Management System that is **certified by ISO 9001:2015 and ISO 13485:2016 standards**. Our IVD reagents are always manufactured according to Standard Operating Procedures (SOPs) and undergo rigorous quality controls in our laboratories.

We are authorised to work with genetic modified organisms (GMO), with the license number A/ES/19/I-22, issued by National Biosafety Commission.

We are registered as a **Innovative SME**.

IMQ CERTIFIED QUALITY MANAGEMENT SYSTEM ISO 9001:2015

IMQ CERTIFIED QUALITY MANAGEMENT SYSTEM ISO 13485:2016

INNOVATIVE SME

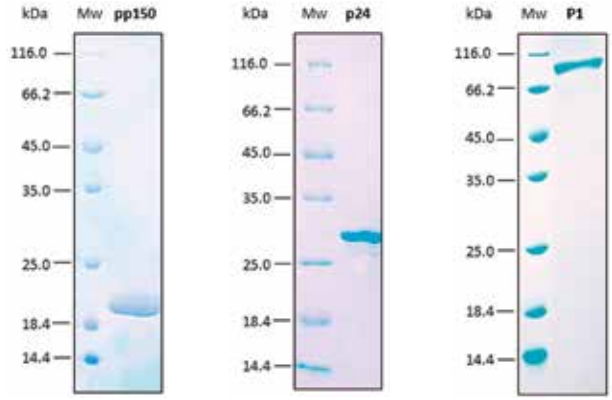
Each lot is subjected to various quality controls:

- **Concentration detection by spectrophotometry**

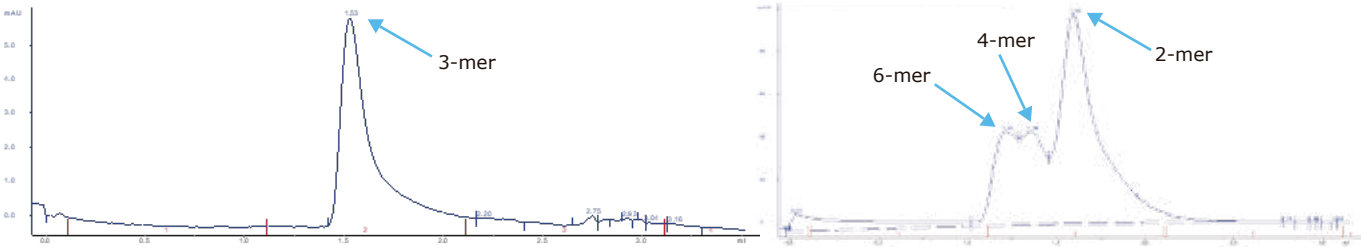
  As the determination of accurate extinction coefficients is straightforward, ultraviolet absorption spectroscopy is preferred over chemical methods, such as the Lowry or Bradford methods. The measurement of the protein concentration is performed with the theoretical extinction coefficient of the recombinant protein obtained from Gill and von Hippel, 1989.

  However, for proteins that do not contain any Trp residues, experience shows that this could result in more than 10% error in the computed extinction coefficient. Therefore, we measure the protein concentration by using the colorimetric assay based on the interaction between Coomassie brilliant blue and the arginine and aromatic residues (Bradford Method) with a maximum absorption shift from 470 nm to 595 nm (Bradford, 1976).

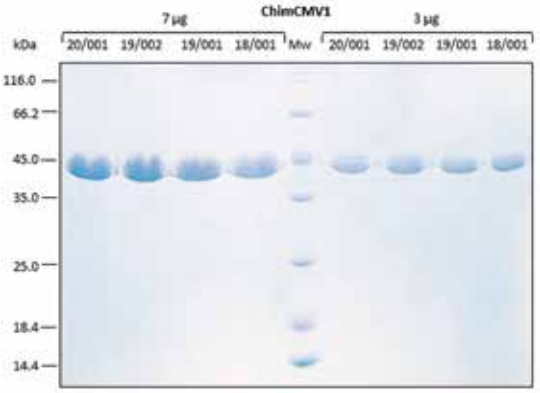
- **Purity determination by SDS-PAGE**



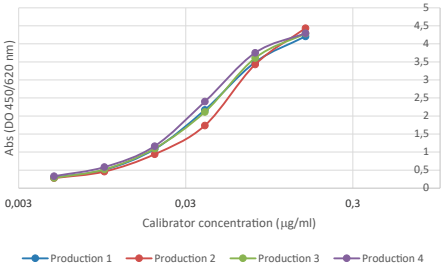
- **Aggregates, multimers or degraded species analysis by size-exclusion chromatography (SEC)**



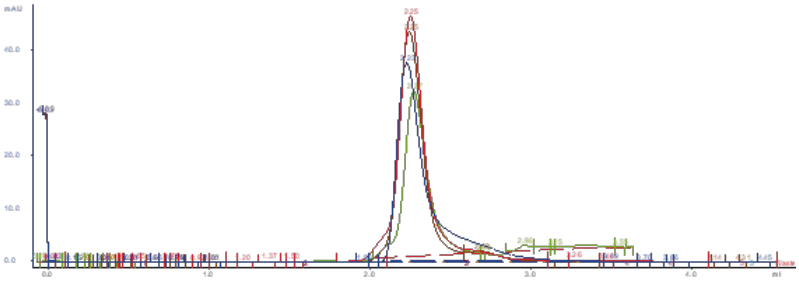
- **Lot-to-Lot Consistency.** Reproducibility analyses are performed by SDS-PAGE, SEC and ELISA assay. Excellent replicability of the production process.



SDS-PAGE analysis

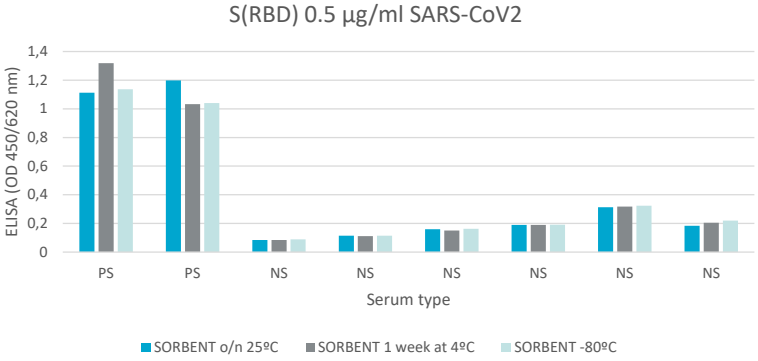


ELISA assay analysis



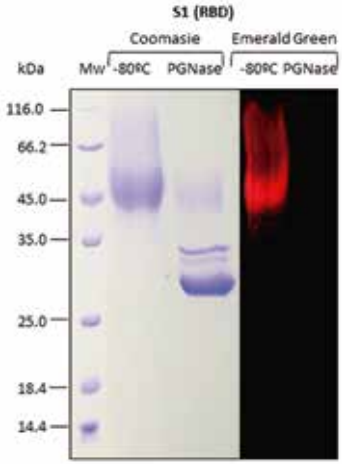
SEC Analysis

- **Storage Stability.** Relative stability with immunoassay analysis at different ambient conditions is performed.

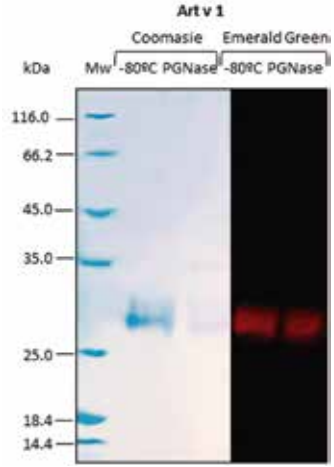


Stability of the sorbent effect at different storage times

- **Glycosylation Analysis.** For recombinant proteins produced in *Pichia pastoris*, the N-glycosylation and O-glycosylation are analysed.

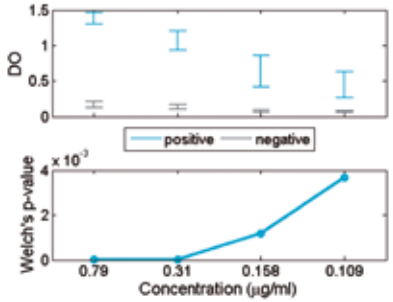


N-Glycosylation



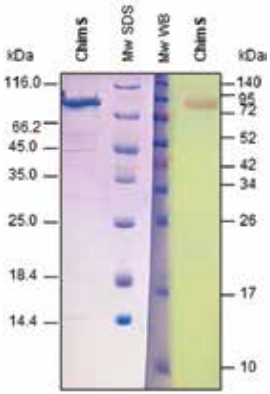
O-Glycosylation

- **Immunological analyses by ELISA or Western Blot assays.** For further information, take a look at our technical report "Titration Experiments" in *https://www.rekombiotech.com/en/support/scientific-technical-information.*

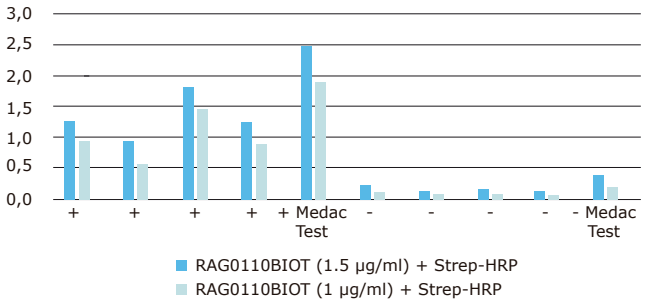


In this plot, the optical density at 450/620 nm for positive (blue) and negative (gray) **IgG** sera are compared for each concentration of the recombinant antigen. An appropriate statistical test of significance for the comparison of means between both groups, the Welch's test, is employed. Eligible concentrations for the use of the antigen should present statistically significant differences between positive and negative sera. This happens when the intervals at the top do not overlap and, equivalently, when the p-value at the bottom is below 0.05. In the present figure, all p-values are below 0.05 and thus the intervals do not overlap. Therefore, any of the showed concentrations can be used to distinguish between positive and negative sera.

Biotin conjugation. Our *in vivo* monobiotinylated antigens are analysed with a western blot assay with conjugated streptavidin (A) and several ELISA assays (indirect ELISA assay in streptavidin-coated microtiter plates, capture ELISA assay with the biotinylated recombinant antigen as detector and double-antigen-sandwich ELISA assay (B)).

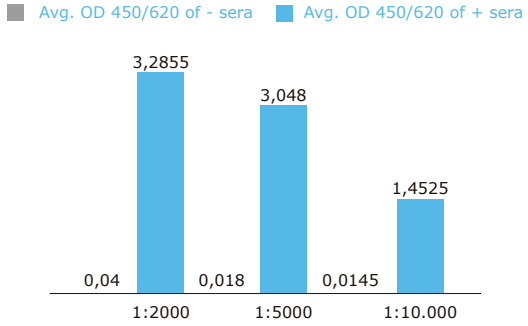


(A)

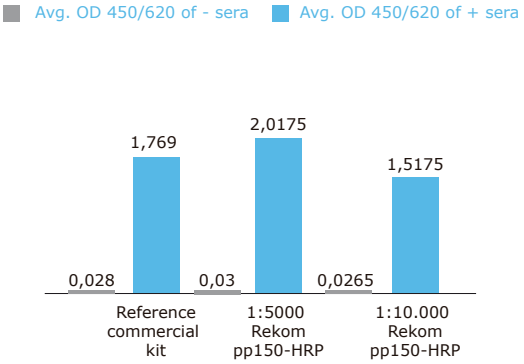


(B)

Peroxidase (HRP) conjugation. As an internal quality control of an ELISA capture format, we also conjugate our antigens with peroxidase as internal quality control by using the biomarker as a developer. We perform a capture ELISA assay by using a commercial test and a double-antigen-sandwich ELISA assay.



A double antigen sandwich ELISA assay (DAS) performed with positive and negative CMV IgM specimen sera pre-validated with the ELISA capture IgM VIDAS.



A capture ELISA assay performed with two different dilutions of the Rekom pp150-HRP in a reference commercial test (CMV-IgM-eLA test PKS medac).

TECHNICAL REPORTS

Take a look at our technical reports at *https://www.rekombiotech.com/en/scientific-technical-information*:

- Tritation Experiments
- Leishmania Recombinant Antigens KMP11 and K39
- Optimization of the recombinant EBV nuclear antigen quality by improving its integrity in *Escherichia Coli*
- Recombinant chimeric antigen VlsE for *Borrelia burgdorferi*
- Evaluation of a CMV chimeric recombinant antigen, ChimCMV1, by indirect and capture elisa assays. Comparison with other CMV antigens
- Evaluation of syphilis antigens Tpp17 and Tpp47 by using an in house third generation DAS-ELISA
- SAG1 (p30) from *Toxoplasma gondii* requires maintain its native conformation to detect IgM antibodies
- Multi-epitope chimeras as a syphilis IVD working pair (RAG0046/RAG0046BIOT) for IgG+IgM antibody detection by a double-antigen sandwich (DAS) immunoassay format
- Preparation of a detection complex RAG0109BIOT-Strep-HRP ready-to-use for CMV IgM immunocapture assay
- Nucleoprotein and spike glycoprotein, a combination of two quite different antigens for COVID-19 *in vitro* diagnostic.

List of citations

You can also take a look at the blibliography performed with our products:

- Ulrike Ripp. (2013) Suitability of LipL32 as antigen in a screening-ELISA for the detection of Leptospira-antibodies in pigs. Thesis submitted to Institute of Animal Hygiene and Veterinary Public Health, Faculty of Veterinary Medicine, University of Leipzign
- Abass E, Bollig N, Reinhard K, Camara B, Mansour D, Visekruna A, Lohoff M, Steinhoff U. (2013) rKLO8, a Novel *Leishmania donovani* - derived recombinant immunodominant protein for sensitive detection of visceral leishmaniasis in Sudan. PLoS Negl Trop Dis 7(7): e0002322
- Zafra A, Castro AJ, Alché JD. (2018) Identification of novel superoxide dismutase isoenzymes in the olive (*Olea europaea* L.) pollen. BMC Plant Biol 18(1): 114
- Mollett G, Bremer Hinckel BC, Bhattacharyya T, Marlais T, Singh OP, Mertens P, Falconar AK, El-Safi S, Sundar S, Miles MA. (2019) Detection of Immunoglobulin G1 Against rK39 Improves Monitoring of Treatment Outcomes in Visceral Leishmaniasis. Clin Infect Dis 69(7): 1130-1135
- Bremer Hinckel BC, Marlais T, Airs S, Bhattacharyya T, Imamura H, Dujardin J-C, *et al.* (2019) Refining wet lab experiments with *in silico* searches: A rational quest for diagnostic peptides in visceral leishmaniasis. PLoS Negl Trop Dis 13(5): e0007353

PRODUCT MANIPULATION

SHIPPING

Our IVD reagents are in liquid or lyophilized (dry powder) format. Their shipment will be made with dry ice in case of being in liquid format, or at room temperature in case of being in lyophilized format.

STORAGE

If the reagent is in liquid format, upon arrival, it should be aliquoted in order to avoid repeated freezing and thawing cycles and stored at -20ºC to -80ºC. Reagents should be maintained frozen at high concentrations. If the reagent is in lyophilized format, upon arrival, it should be stored at 4° to -20°C in vertical position, avoiding all possible humidity and maintaining the vials dry. Once reconstituted, it should be stored as previously indicated.

DEFROST

In order to defrost the product, maintain the aliquot at 25ºC without shaking to avoid aggregation.

MANIPULATION

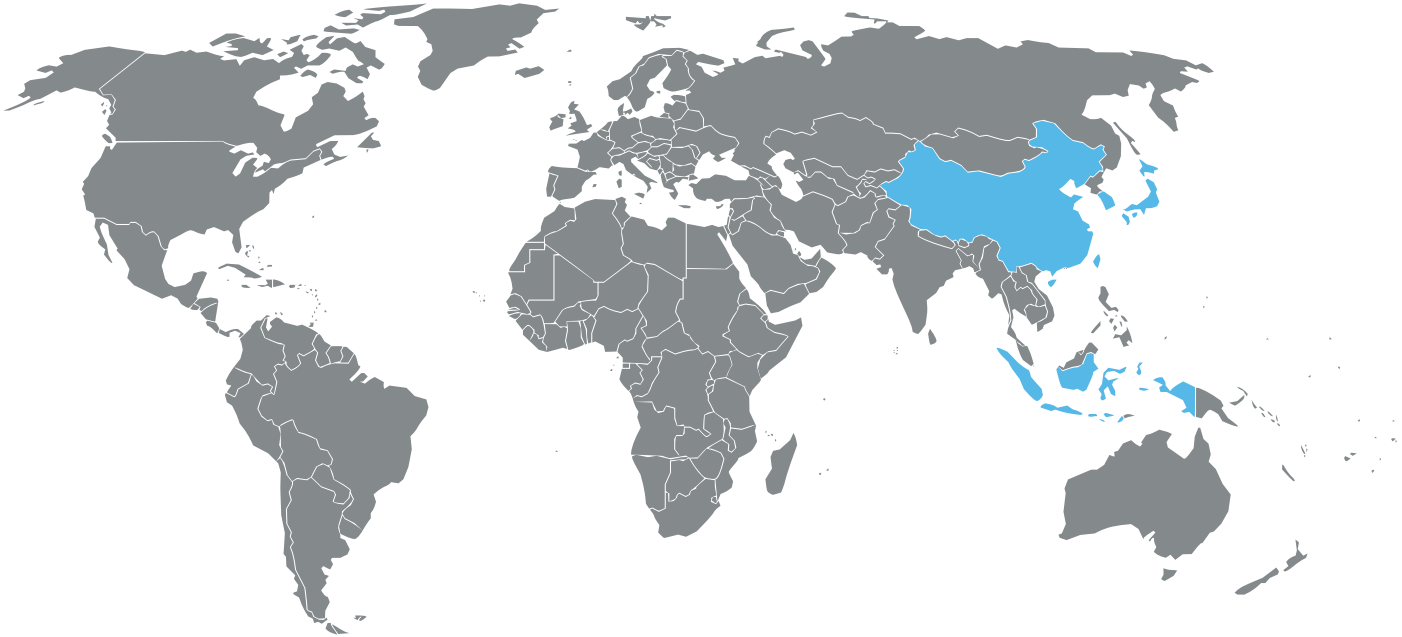
Before making test dilutions and after the protein has been defrosted, it is recommended to remove possible protein aggregates by centrifuging the stock solution, avoiding alterations in the immobilisation of the biomolecule to the solid surface.

During shipment, small volumes of product will occasionally become entrapped in the seal of the product vial. For products with volumes of 200 µl or less, we recommend tapping the vial on a hard surface or briefly centrifuging the vial in a tabletop centrifuge to dislodge any liquid in the containers cap. Although proteins are expressed in non-pathogenic *E. coli* and *P. pastoris* and bacterial integrity is destroyed during purification, the protein preparation should be handled as potentially infectious.

STABILITY

The reagent will remain stable for a minimum of six years if the indicated storage conditions are met. After that, a retest will be required.

DISTRIBUTORS



Rekom Biotech is a global born company and, as such, international markets are the basis of the company activity.

In most of these markets we **work directly with our customers** with the aim of offering them direct assistance and continuous support. In some others, we work with distributors in order to facilitate our customers the access to our products.

We are currently looking for established distributors in South America, Middle East, Russia and India. If you are interested in distributing Rekom Biotech's IVD reagents in one of these areas, we will be happy to hear your proposal.

CHINA

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Lishui District, Nanjing, CHINA

Phone: 400-025-0860
Email: info@ambigenbio.com

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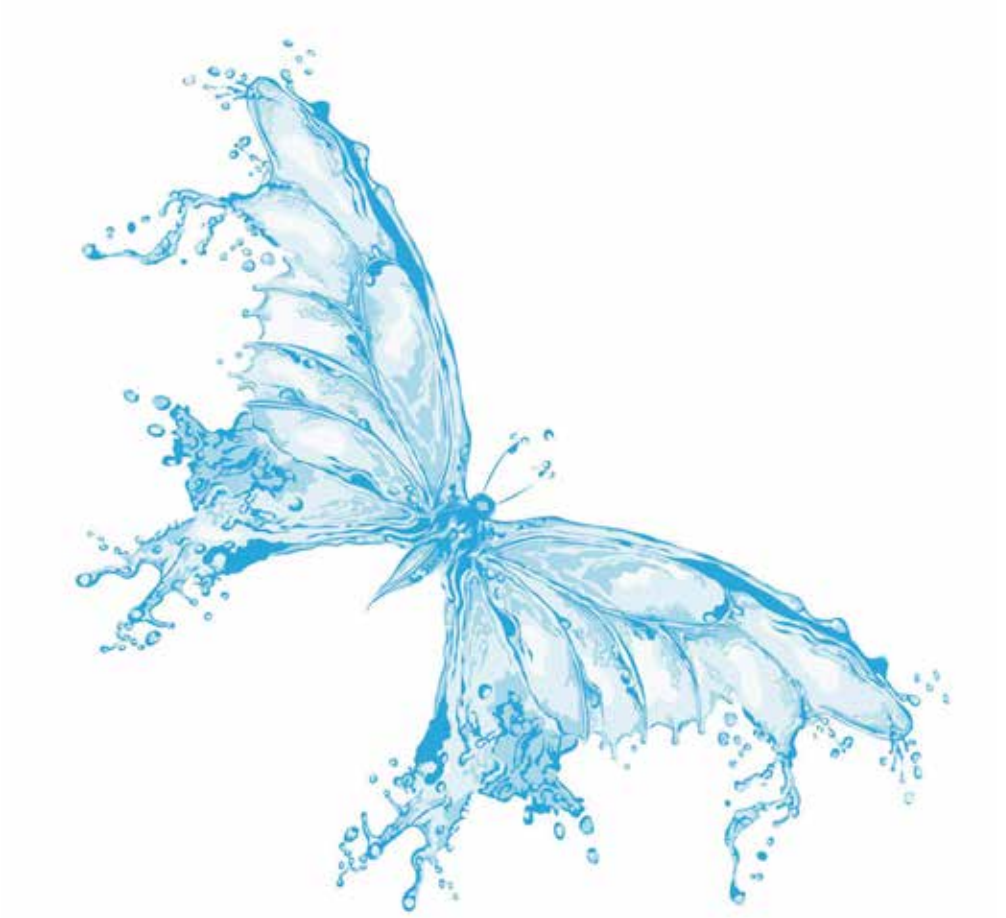

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