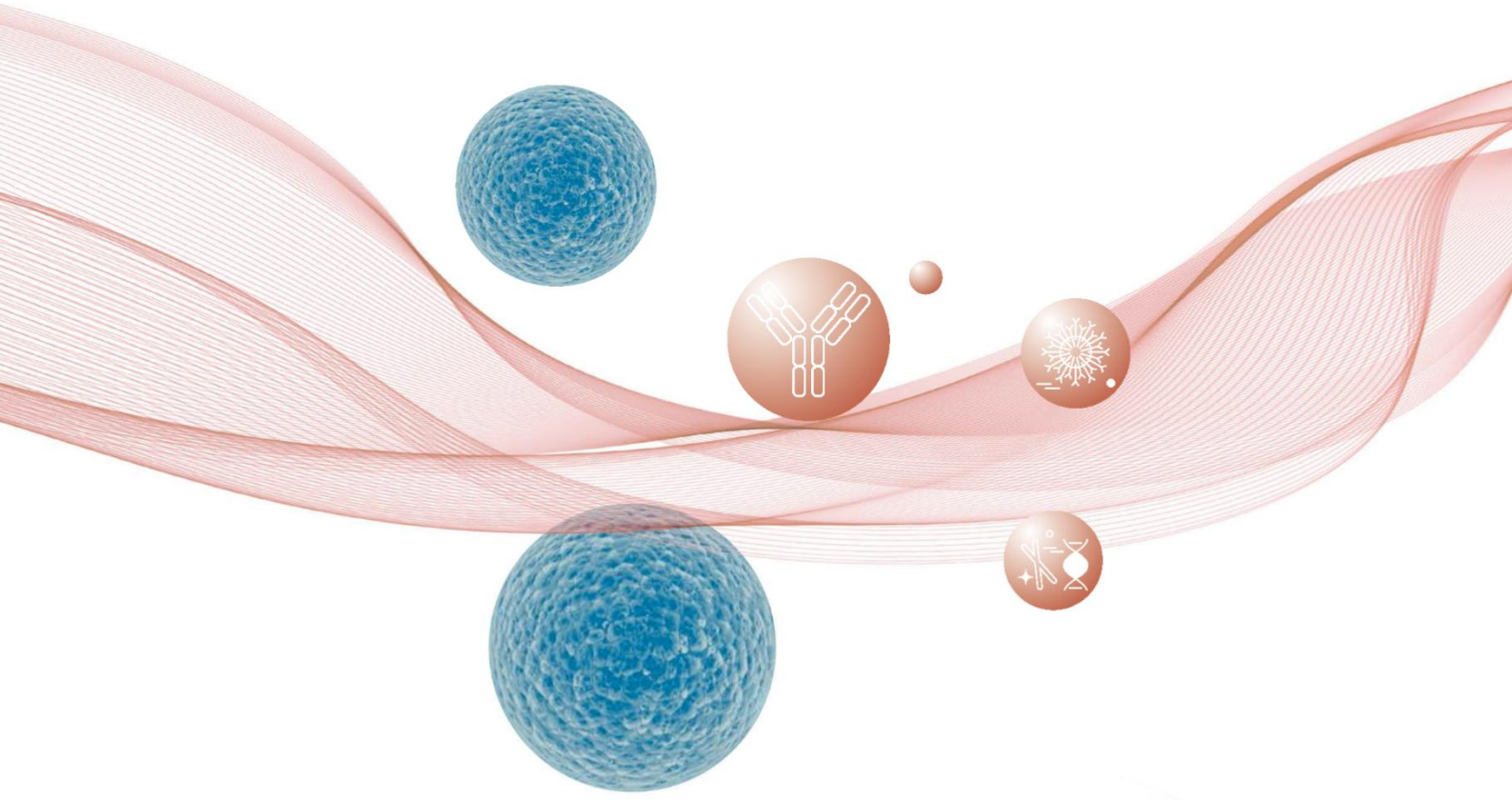
BEAVER

BEAVERBEADS™
PRODUCT CATALOG



BEAVER BIOMEDICAL ENGINEERING CO.,LTD.

About Us

BEAVER Biomedical Engineering Co., Ltd. is a research and development company engaged in manufacturing nano magnetic beads and micromaterials in life science field, located in Suzhou Industrial Park, China, with the area of 6000 m^2 100,000 grade standard clean room. BEAVER focuses on the IVD sample processing solutions. The product portfolio includes magnetic bead raw materials, nucleic acid extraction reagents, laboratory consumables and laboratory equipment. BEAVER has been certified by ISO 9001 and ISO 13485 and many products have obtained Class I medical instrument certificates from China, Europe & USA. In addition, BEAVER has been honored about 10 China municipal and provincial awards and high-tech enterprise qualifications since founded in 2012.

Till now, BEAVER has collaborated with many institutions, universities and companies to develop international standards, new technology and products etc. For instance, BEAVER has worked with German Physikalisch-Technische Bundesanstalt (PTB), the National Metrology Institute of Germany, on creation of international standards project ISO (International Organization for Standardization) 19807-2. BEAVER also supplies the products for more than 50 countries, such as US, Canada, Brazil, France, Italy, Australia, Korea, Thailand, India etc.

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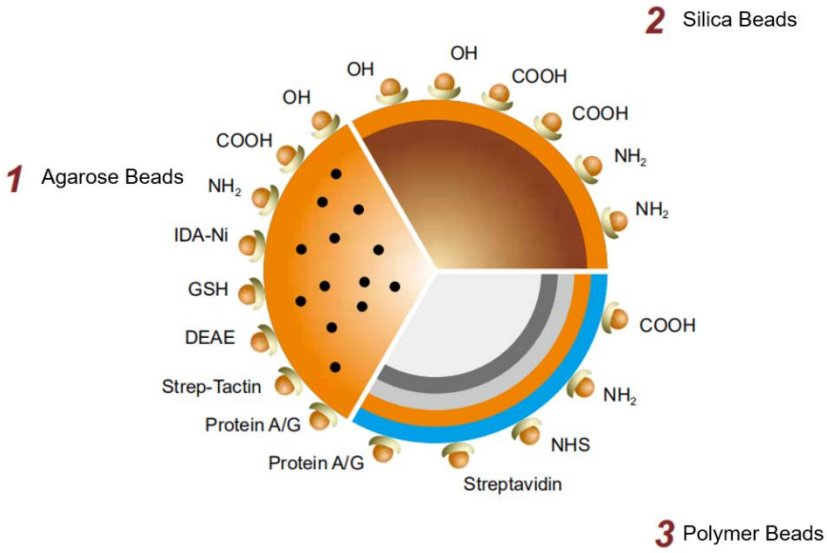
BeaverBeads™ Overview

BeaverBeads™

BeaverBeads™ are a series of magnetic beads, featuring nano and bio technology as a "twin-turbine" strategy in the product design. BeaverBeads™ are divided into 3 main categories based on the synthesis process and micro structure.



1. Porous Structure 10~100 μm (Agarose)

BeaverBeads™ coated with agarose have huge capacity due to its porous structure. It is decorated with hydroxyl, amino, or carboxylic groups and mainly used in fields including protein fixation and protein separation/purification by coupling with metal ions, GSH, Strep-Tactin, DEAE, and Protein A/G.

2. Core-Shell Structure 300-500 nm (Silica)

BeaverBeads™ coated with silica are decorated with hydroxyl, or carboxylic functional groups. Silica hydroxyl beads are mainly used in fields including genome extraction while silica carboxylic groups are mainly used in circulating and viral DNA/RNA extraction and purification.

3. Sandwich Structure 1-5 μm (Polymer)

BeaverBeads™ coated with polymer are decorated with amino, carboxylic or NHS functional groups and can also be bonded with streptavidin. It is mainly used in fields including immuno-diagnosis, immuno-precipitation, cell sorting, phage screening and neutralizing antibody detection.

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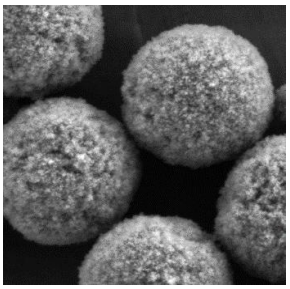
BeaverBeads™ for NanoParticles and Magnetic Beads

BeaverBeads™ Magnetic Nanoparticles

Magnetic Nanoparticles (MNPs) are nanoparticles prepared from Iron(II,III) oxide (Fe3O4), which has superparamagnetism.

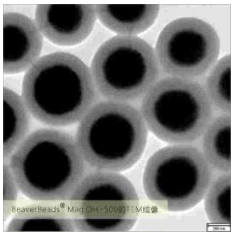
Product Information

Product information	BeaverBeads™ Magnetic Nanoparticles		
Material	Fe_3O_4 powder		
Particle size	200 nm	400 nm	600 nm
Concentration	100 mg/mL	100 mg/mL	100 mg/mL
Production Capacity	16.5 kg/week		



BeaverBeads™ Silica

BeaverBeads™ coated with silica are developed for nucleic acid extraction. The surface is modified with a large number of OH or COOH groups. It is suitable for high-throughput automated and manual extraction and purification of nucleic acids.



Features

- Excellent nucleic acid binding capacity
- Operation performance: Magnetic beads disperse evenly magnetic response time is < 30s
- Excellent stability and repeatability: Uniform particle size, poly dispersity coefficient < 0.2

Application

- Nucleic acid extraction
- Protein purification

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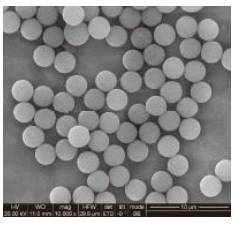
Product List

Product Name	Specification	Cat.No.
BeaverBeads™ Mag OH-500	5 mL, 10 mg/mL, 500 nm	70301-5
	50 mL, 10 mg/mL, 500 nm	70301-50
	1 mL, 50 mg/mL, 500 nm	70301-H1
	1 mL, 50 mg/mL, 500 nm	70301-H10
BeaverBeads™ SuperMag OH-500	5 mL, 10 mg/mL, 500 nm	70304-5
	50 mL, 10 mg/mL, 500 nm	70304-50
	1 mL, 50 mg/mL, 500 nm	70304-H1
	10 mL, 50 mg/mL, 500 nm	70304-H10
BeaverBeads™ Mag OH-1000	5 mL, 10 mg/mL, 1000 nm	70302-5
	50 mL, 10 mg/mL, 1000 nm	70302-50
	1 mL, 50 mg/mL, 1000 nm	70302-H1
	10 mL, 50 mg/mL, 1000 nm	70302-H10
BeaverBeads™ Mag NH_2-S500	5 mL, 10 mg/mL, 500 nm	70201-5
	50 mL, 10 mg/mL, 500 nm	70201-50
BeaverBeads™ Mag COOH-S500	5 mL, 10 mg/mL, 500 nm	70107-5
	50 mL, 10 mg/mL, 500 nm	70107-50
BeaverBeads™ Mag COOH-NS500	1 mL, 10 mg/mL, 500 nm	70108-5
	50 mL, 10 mg/mL, 500 nm	70108-50
BeaverBeads™ Mag COOH-SC300	1 mL, 50 mg/mL, 300 nm	70112-1
	10 mL, 50 mg/mL, 300 nm	70112-10
BeaverBeads™ Mag COOH-PC300	1 mL, 50 mg/mL, 300 nm	70111-1
BeaverBeads™ Mag COOH-PC300	10 mL, 50 mg/mL, 300 nm	70111-10
BeaverBeads™ Mag COOH-600	1 mL, 50 mg/mL, 600 nm	70116-1
	10 mL, 50 mg/mL, 600 nm	70116-10
BeaverBeads™ Silica Trial Kit	4X1 mL, 50 mg/mL（include 70301, 70302, 70111, 70112）	70100-Trial

BeaverBeads™ Polymer

BeaverBeads™ Polymer apply advanced polymerization technology to combining super-paramagnetic with macro-molecular material.



These microspheres are capable of covalently immobilizing biological ligands, such as peptides, proteins, antibodies and oligonucleotides with the help of reagents such as EDC/NHS. These magnetic beads can be used for immunisation test and molecular biology research.

Features

- Super-paramagnetic
- Fast magnetic response
- Rich surface functional groups
- Monodispersion, low non-specific adsorption

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Application

- Immunodiagnosis
- Cell isolation
- Immunoprecipitation

Product list

Product Name	Specification	Cat. No.
BeaverBeads™ Mag COOH	5 mL, 10 mg/mL, 2 μm	70102-5
	50 mL, 10 mg/mL, 2 μm	70102-50
	5 mL, 10 mg/mL, 1 μm	70104-5
	50 mL, 10 mg/mL, 1 μm	70104-50
	5 mL, 10 mg/mL, 5 μm	70105-5
	50 mL, 10 mg/mL, 5 μm	70105-50
	5 mL, 10 mg/mL, 300 nm	70106-5
	50 mL, 10 mg/mL, 300 nm	70106-50
	5 ml, 10 mg/ml, 300 nm	70121-5
	50 ml, 10 mg/ml, 300 nm	70121-50
	5 mL, 10 mg/mL, 2.8 μm	70109-5
	5 mL, 10 mg/mL, 2.8 μm	70109-50
BeaverBeads™ Mag COOH 280	5 mL, 10 mg/mL, 2.8 μm	70109H-5
	50 mL, 10 mg/mL, 2.8 μm	70109H-50
BeaverBeads™ Mag COOH-HC 300	5 mL, 10 mg/mL, 3 μm	70117-5
	50 mL, 10 mg/mL, 3 μm	70117-50
BeaverBeads™ Mag NH_2	5 mL, 10 mg/mL, 2 μm	70202-5
	50 mL, 10 mg/mL, 2 μm	70202-50

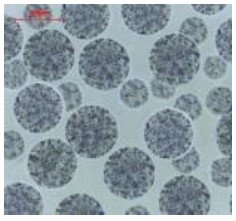
BeaverBeads™ Magrose

BeaverBeads™ Magarose combine natural hydrophilic polymer and agarose with superparamagnetic material. The agarose surface provides the microspheres with large specific area and plenty of active sites.

BeaverBeads™ Magrose have abundant active functional groups, fast magnetic response, and low non-specific adsorption and thus can be used for enrichment, separation and purification of biomolecules (proteins, peptides, oligonucleotides, drug molecules, etc.). BeaverBeads™ have strong target material binding ability and therefore highly recommended in purification area.

Features

- Large specific area and rich COOH content
- Excellent operation performance: Magnetic beads disperse evenly with super paramagnetism
- Excellent stability and repeatability and reusability
- High binding capacity, low non-specific adsorption



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Application

- Protein purification and separation
- Immunodiagnosis

Product List

Product Name	Specification	Cat. No.
BeaverBeads™ Magrose OH	10 mL, 50%(v/v), 30-150 μm	70802-10
	100 mL, 50%(v/v), 30-150 μm	70802-100
	5 mL, 50%(v/v), 10-30 μm	70812-5
	50 mL, 50%(v/v), 10-30 μm	70812-50
	5 mL, 50%(v/v), 10-30 μm, great suspension	70812P-5
	50 mL, 50%(v/v), 10-30 μm, great suspension	70812P-50
BeaverBeads™ Magrose OH (6B)	10 mL, 50%, 10-30 μm	70822-10
	100 mL, 50%, 10-30 μm	70822-100
	1 L, 50%, 10-30 μm	70822-1000
BeaverBeads™ Magrose NH_2	5 mL, 10%(v/v), 30-150 μm	70203-5
	50 mL, 10%(v/v), 30-150 μm	70203-50
	5 mL, 20%(v/v), 10-30 μm	70213-5
	50 mL, 20%(v/v),10-30 μm	70213-50
	5 mL, 20%(v/v), 10-30 μm, great suspension	70213P-5
BeaverBeads™ Magrose NH_2	50 mL, 20%(v/v),10-30 μm, great suspension	70213P-50
BeaverBeads™ Magrose COOH	5 mL, 10%(v/v), 30-150 μm	70103-5
	50 mL, 10%(v/v), 30-150 μm	70103-50
	5 mL, 20%(v/v), 10-30 μm	70113-5
	50 mL, 20%(v/v),10-30 μm	70113-50
	5 mL, 20%(v/v), 10-30 μm, great suspension	70113P-5
	50 mL, 20%(v/v), 10-30 μm, great suspension	70113P-50

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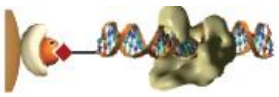
BeaverBeads™ for Immunoassay and Capture

BeaverBeads™ Streptavidin

BeaverBeads™ Streptavidin can bind specifically to biotinylated antibodies, polypeptides and nucleic acid molecules. These streptavidin-biotin complex is the strongest known noncovalent interaction and has cascade amplification effect. BeaverBead™ Streptavidin can be produced on an industrial scale and widely used as a media for bio-marking and capturing.

Application Scope

Legend	Application direction	Illustrations
	Immunoassay, Protein isolation Cell isolation	BeaverBeads™ Streptavidin can specifically bind biotinylated antibody or antigen, as immune detection, ELISA solid-phase reaction carrier, or used for sorting cells
	Nucleic acid capture and purification	BeaverBeads™ Streptavidin can specifically combine biological nucleic acid probe in the hybridization experiments of DNA, RNA.
	DNA-Study on protein interaction protein	BeaverBeads™ Streptavidin specifically targets with biotinylated DNA or RNA fragments and it can be used to study the interaction between proteins and nucleic acids.

Note: the application directions listed above have many forms of implementation, not limited to illustrations.

Product Information

Product information	BeaverBeads™ Streptavidin				
Cat. No.	22305	22306	22307	22308	22309
Bead size	2 μm	5 μm	1 μm	300 nm	2.8 μm
Free biotin (pmol/mg bead)	1000	800	1100	N/A	N/A
Biotin-nucleic acid probe binding capability (pmol/mg)	≥350	≥300	≥450	≥450	≥450
Biotinylated IgG (μg/mg bead)	≥15	≥10	≥15	≥15	≥10
Bead concentration	10±1 mg/mL				
Preservative solution	1×PBS, 0.1%(w/v) BSA, 0.1%(v/v) proclin-300				
Preservation condition	2~8℃				
Shelf life	24 months				

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Application Cases

1. BeaverBeads™ Streptavidin 280 is used in ALP enzymatic luminescence detection of MYO

Samples	Competitor	BEAVER
S0	11579	8960
S1	764726	721411
S2	1794039	1587336
S3	3438524	3451705
S4	7507504	7951175
S5	16422835	19104131
S6	29808921	33668640

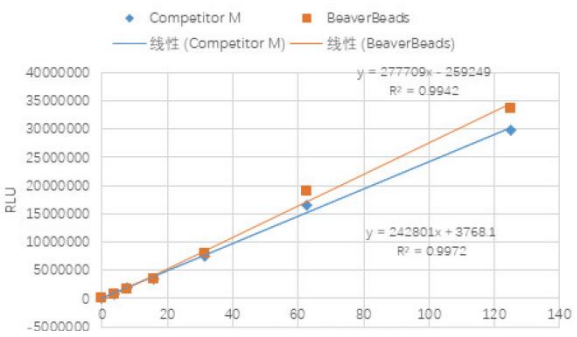

Fig.1 BeaverBeads used for ALP enzymatic luminescence detection of MYO

Magnetic particle chemiluminescence (enzymatic chemiluminescence) is used to detect myoglobin (MYO). Under the same experimental conditions, the background signal of BeaverBeads™ Streptavidin 280 is reduced by 20%, and the high-value luminescence value is increased by 13%. Its resolution is 1.5 times better than Competitor.

2. BeaverBeads™ Streptavidin 300 for nucleic acid probe capture

Magnetic Beads	Library concentration (ng/μL)	Target fragments proportion
BeaverBeads Lot 1	47.0	74.7%
BeaverBeads Lot 2	45.4	75.0%
BeaverBeads Lot 3	42.2	75.8%
Competitor	50.6	71.5%

Fig.2 Different batches of BeaverBeads™ Streptavidin are used to capture nucleic acid probe data during next-generation sequencing.

BeaverBeads™ Streptavidin 300 can be used to capture nucleic acid probes during second-generation sequencing. The overall quality of captured nucleic acids is consistent with that of competing magnetic beads. The library concentration reaches 90% than that of competitor's. The proportion of target fragments in BeaverBeads exceeds that of competitor's. The main reason is that BeaverBeads™ Streptavidin has stricter control over non-specific adsorption.

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Product List

Product name	Specification	Cat. No.
BeaverBeads™ Streptavidin (2 μm)	1 mL, 10 mg/mL, 2 μm	22305-1
	10 mL, 10 mg/mL, 2 μm	22305-10
	100 mL, 10 mg/mL, 2 μm	22305-100
BeaverBeads™ Streptavidin (5 μm)	1 mL, 10 mg/mL, 5 μm	22306-1
	10 mL, 10 mg/mL, 5 μm	22306-10
	100 mL, 10 mg/mL, 5 μm	22306-100
BeaverBeads™ Streptavidin (1 μm)	1 mL, 10 mg/mL, 1 μm	22307-1
	10 mL, 10 mg/mL, 1 μm	22307-10
	100 mL, 10 mg/mL, 1 μm	22307-100
BeaverBeads™ Streptavidin (300 nm)	1 mL, 10 mg/mL, 300 nm	22308-1
	10 mL, 10 mg/mL, 300 nm	22308-10
	100 mL, 10 mg/mL, 300 nm	22308-100
BeaverBeads™ Streptavidin (2.8 μm)	1 mL, 10 mg/mL, 2.8 μm	22309-1
	10 mL, 10 mg/mL, 2.8 μm	22309-10
	100 mL, 10 mg/mL, 2.8 μm	22309-100
BeaverBeads™ Streptavidin-HS300	1 mL, 10 mg/mL, 3 μm	22311-1
	10 mL, 10 mg/mL, 2.8 μm	22311-10
	100 mL, 10 mg/mL, 2.8 μm	22311-100
BeaverBeads™ Streptavidin (10-30 μm)	5 mL, 20%(v/v), 10-30 μm	22321-5
	10 mL, 20%(v/v), 10-30 μm	22321-10
BeaverBeads™ Streptavidin (10-30 μm)	50 mL, 20%(v/v), 10-30 μm	22321-50
BeaverBeads™ Streptavidin Trial	4x1 mL, 10 mg/mL, 22306, 22307, 22308, 22309 included	22300-Trial

BeaverBeads™ NHS

BeaverBeads™ NHS are superparamagnetic beads with activated groups of N-Hydroxysuccinimide on the surface, which can react with primary amines on desired ligands and bind them covalently with amide linkage to the beads. The ligand can be various molecules including antigen, antibody and other proteins. Compared with the traditional carboxyl, amino magnetic beads, the NHS group of magnetic beads don't need to be activated by EDC/NHS or Glutaraldehyde, simply dissolve the amino-containing bioligand in the coupling buffer at room temperature, then mix with proteins and the NHS magnetic beads for 1-2 hours, the bioligand can be coupled to the magnetic beads. The advantages include easy operation, mild coupling conditions and efficient coupling. The magnetic bead coupling process must be carried out in a buffer solvent free of any amino. This method can be operated manually or automatically.

Features

- Convenient. Direct covalent binding with bioligand, no pre-activation needed
- Efficient. The efficiency of binding with bioligand is up to 90% which is higher than carboxyl magnetic beads. Binding capacity is much higher than others
- Rapid. Complete the bioligand coupling in 1-2 h
- Mild. Binding temperature is RT or 4 ℃ and pH is between 5 and 9
- Stable. Form a stable amide bond in order to prevent ligand shedding
- Good bio-compatibility and low non-specific adsorption

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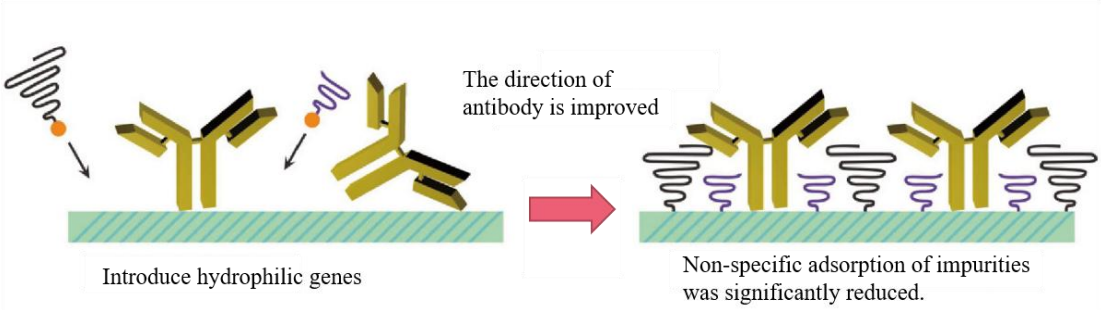

Application Direction

Suitable for the covalent coupling of protein, antibody, enzyme, polypeptide, nucleic acid and other biological molecules containing primary amino group.

Product Information

Product Name	BeaverBeads™ Mag NHS	BeaverBeads™ Magrose NHS
Binding Capacity	≥ 30 μg rabbit IgG/mg beads	20-30 mg rabbit IgG/mL beads
Concentration	10 mg/mL	20%(v/v)
Preservative	DMAC	Anhydrous isopropanol
Shelf Life	24 months at 2-8 ℃	12 months at 2-8 ℃

Note 1: The binding ability is related to the characteristics of the bio-ligand itself, values here are only for reference.
Note 2: 1 mL beads suspension includes 200 μL beads.

Application Case

BeaverBeads™ Mag NHS on chemiluminescence

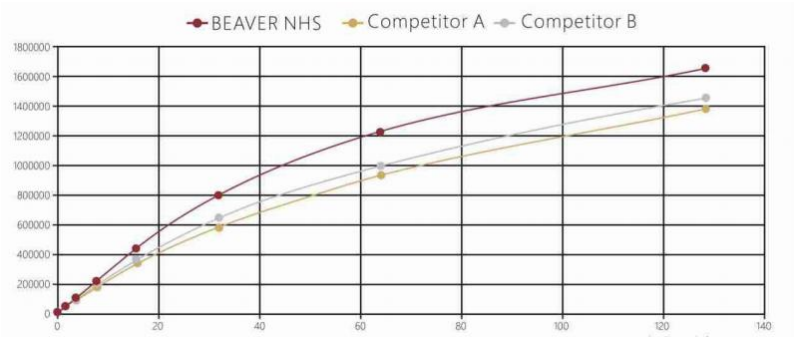

Fig.1 Comparison of chemiluminescence values between BeaverBeads™ Mag NHS and competing products

Using enzyme chemiluminescence method for antibody quantitative detection, the results show that BeaverBeads™ Mag NHS sensitivity achieves 20% higher than the competitive products, showing excellent chemiluminescence performance.

Application

- In-vitro diagnostic
- Immunoassay
- Cell isolation
- Immuno-precipitation
- Protein (antibody) purification

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Product list

Product Name	Specification	Cat. No.
BeaverBeads™ Mag NHS	1 mL, 10 mg/mL, 300 nm	70706-1
	10 mL, 10 mg/mL, 300 nm	70706-10
BeaverBeads™ Mag NHS Kit	1 mL, 10 mg/mL, 2 μm	70703-1
	5 mL, 10 mg/mL, 2 μm	70703-5
BeaverBeads™ Magrose NHS	50 mL, 20%(v/v), 10-30 μm	70705-50
	1 mL, 20%(v/v), 30-150 μm	70702-1
	5 mL, 20%(v/v), 30-150 μm	70702-5
	50 mL, 20%(v/v), 30-150 μm	70702-50
BeaverBeads™ Magrose NHS Kit	1 mL, 20%(v/v), 10-30 μm	70705-1
	5 mL, 20%(v/v), 10-30 μm	70705-5

BeaverBeads™ Protein A/G Immunoprecipitation Kit

BeaverBeads™ Protein A/G Immunoprecipitation Kit enables protein A/G to cover superparamagnetic microspheres with high density by using BEAVER biological nano-technology. Comparing to similar products currently on the international immuno-magnetic beads market, BeverBeads™ have more antibody binding points, less usage of beads and lower binding rate with other protein, so it makes immunoprecipitation experiments more efficient. Every milliliter immunoprecipitation beads can bind human IgG for more than 300 μg, and a single precipitation reaction only need 25 μL beads. The super-large specific surface area provided by the micrometer size beads can significantly reduce the equilibrium time required for adsorption of antibody and antigen. The antibody adsorption process can be completed within 15 mins and the antigen precipitation process is completed within 30 mins. Short operating time can avoid target protein hydrolysis, ensuring the activity of the target protein and integrity of protein complex. This product can be used in cell lysate, cell secretion supernatant, blood plasma, ascites, tissue culture supernatant and other samples of antigen immunoprecipitation reaction.

Features

- High efficiency, high capacity and low consumption
- Flexible and simple operation
- Reliable results
- Low background

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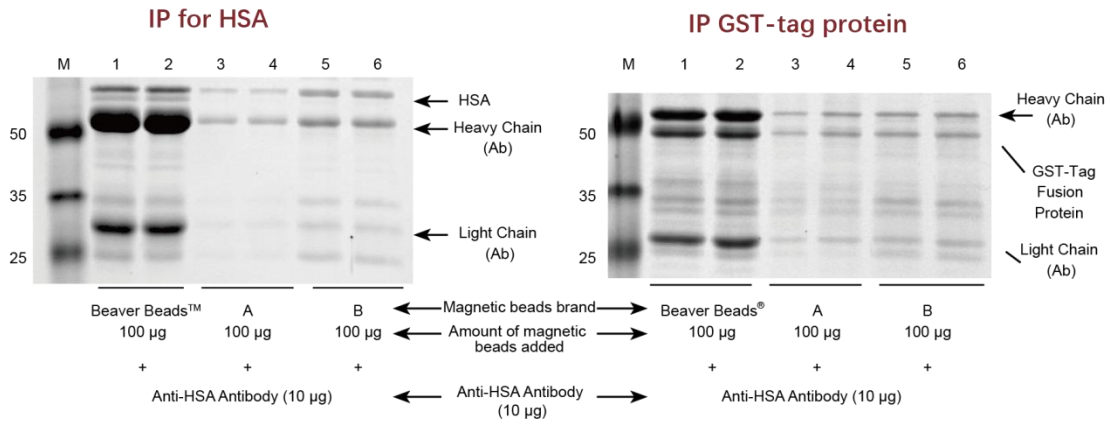
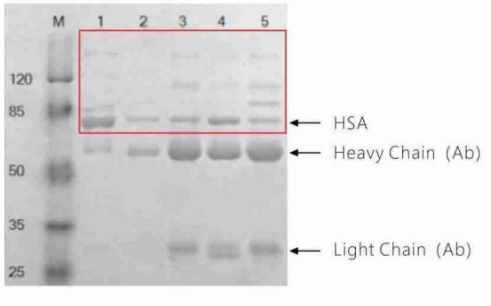
Application Cases

1. Performance of magnetic beads from different brands



Conclusion: 3 different brands of Protein A/G magnetic beads are used in the immuno-precipitation experiments of HSA and GST-tag protein, BeaverBeads™ shows the strongest antibody binding ability and HSA capture ability.

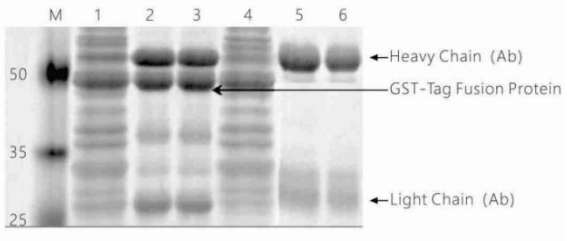
2. Comparison of HSA IP kit of BeaverBeads™ for Immunoprecipitation and the kit from another brand A



1. One hundredfold diluted serum sample
2. HSA IP: BeaverBeads™ Protein A (50 μg) binding with 5 μg rabbit polyclonal antibodies
3. HSA IP: BeaverBeads™ Protein A/G (50 μg) binding with 5 μg rabbit polyclonal antibodies
4. HSA IP: BeaverBeads™ Protein A/G (50 μg) binding with 5 μg mouse IgG1 monoclonal antibodies
5. HSA IP: Kit from competitor brand A (1.5 mg) binding with 5 μg rabbit polyclonal antibodies

As illustrated above, when binding 5 μg rabbit polyclonal antibodies with BeaverBeads™ Protein A, BeaverBeads™ Protein A/G and products of brand A, all three kits can capture targeted proteins effectively. The amount of proteins captured by 50 μg BeaverBeads™ Protein A (or A/G) is about the same as that captured by 1.5 mg beads from brand A and appears less non-specific protein adsorption. The amount of proteins captured and non-specific binding is close to the combination of BeaverBeads™ Protein A/G with 5 μg rabbit polyclonal antibodies and 5 μg rat IgG1 monoclonal antibodies to perform HSA IP. Therefore, both polyclonal and monoclonal antibodies can be utilized on IP experiment.

3. BeaverBeads™ Protein A/G Immunoprecipitaion Kit applied in GST-tag immunoprecipitation experiment



Lane 1: Anti-GST-Tag Antibody (Mouse IgG1) mixed with antigen solution before immunoprecipitaion
Lane 2-3: Processed sample after immunoprecipitaion
Lane 4: Isotype control Mouse IgG mixed with antigen solution before immunoprecipitaion
Lane 5-6: Processed sample after immunoprecipitaion

As illustrated above, BeaverBeads™ Immunoprecipitation Kit can capture GST-tag protein efficiently in order to purify and enrich targeted protein.

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Product list

Products Name	Specification	Cat. No.
BeaverBeads™ Protein A/G	2 μm, 10 mg/mL, 20 rxns	22202-20
	2 μm, 10 mg/mL, 100 rxns	22202-100
BeaverBeads™ Protein A	2 μm, 10 mg/mL, 20 rxns	22203-20
	2 μm, 10 mg/mL, 100 rxns	22203-100

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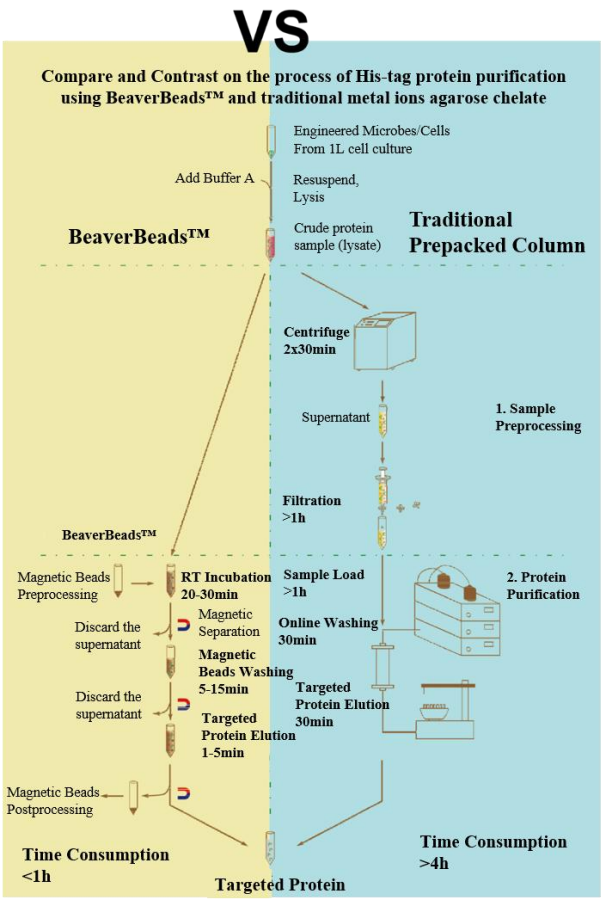
BeaverBeads™ for Protein Purification



- Time-saving
- Low cost
- Flexible

Features of BeaverBeads™ for Protein purification:

1. Simple operation: get rid of the limitations of the traditional column method on sample volume, reagent flow rate, elution volume, column pressure, etc.

2. High efficiency: simultaneous solid-liquid separation and liquid-liquid separation, saving time.

3. Low cost: Avoid the dependency of purification on the equipment and the maintenance afterwards.

4. High throughput: Achieve high throughput and large scale purification due to high stability in parallel operation.

5. Small deviation of each batch: The performance of the product is stable, and the difference between batches is small.

6. High yield, high purity: Targeted protein with high yield and purity.

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BeaverBeads™ IDA/NTA-Nickel/Cobalt

BeaverBeads™ IDA/NTA-Ni/Co are the functional materials especially designed for efficient and rapid extraction of his-tag protein. It is based on magnetic agarose microspheres binding with iminodiacetic acid (IDA) and chelating with Ni or Co ions separately. This product is suitable for the purification of soluble his-tag protein secreted or intracellular proteins, yeast, insects and mammal cells.

Product Information

Product Name	BeaverBeads™ IDA-Ni Cat. No.70501	BeaverBeads™ IDA-Co Cat. No.70502
Bead size range	30-150 μm	
Chelating metal ion	Ni^{2+}	Co^{2+}
Metal ion density	30~50 μmol/mL beads	
Protein binding ability	30~40 mg/mL (100% beads)	20~30 mg/mL (100% beads)
Operating temperature	2~30℃	
Suspension concentration	10%(v/v) magnetic beads suspension	
Preservative solution	Pure Water (recommend to switch to 20% v/v ethanol solution)	
Preservation condition	Store at 2 ~ 8 ℃	
Shelf life	2 years	

Note 1: The binding amount is related to the target protein characteristics.

Note 2: 1 mL magnetic beads contain 100 μL of magnetic beads.

Product Name	BeaverBeads™ NTA-Ni Cat. No.70521P	
Bead size range	10-30 μm	
Chelating metal ion	Ni^{2+}	Co^{2+}
Metal ion density	30~50 μmol/mL beads	
Protein binding ability	30~40 mg/mL (100% beads)	20~30 mg/mL (100% beads)
Operating temperature	2~30℃	
Suspension concentration	25%(v/v) magnetic beads suspension	
Preservative solution	H_2O	
Preservation condition	Store at 2 ~ 8 ℃	
Shelf life	2 years	

Note 1: The binding amount of magnetic beads protein is related to the target protein characteristics, where only reference values are given

Note 2: 1 mL magnetic beads contain 100 μL of magnetic beads.

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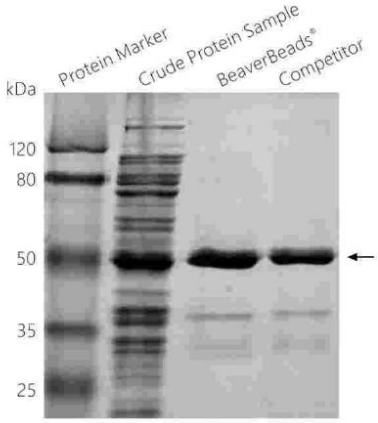
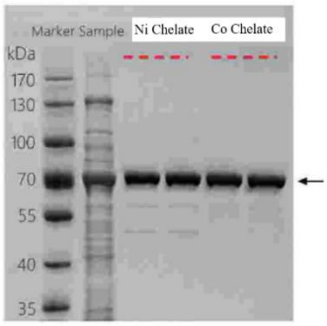
Application Cases



Compared with traditional columns, BeaverBeads™ can purified targeted protein with high purity within one-single step.



Different target proteins appear different binding ability when combining with the two magnetic beads. When performing parallel operation, targeted proteins purified by IDA -Ni is of 90% purity and over 95% targeted proteins can be purified by IDA-Co.

Product List

Product Name	Specification	Cat. No.
BeaverBeads™ IDA-Ni	5 mL, 10%(v/v), 30-150 μm	70501-5
	2×50 mL, 10%(v/v), 30-150 μm	70501-100
	4×250 mL, 10%(v/v), 30-150 μm	70501-1000
BeaverBeads™ IDA-Nickel Kit-10	10 rxn kit(5mL)	70501-K10
BeaverBeads™ IDA-Co	5 mL, 10%(v/v), 30-150 μm	70502-5
	2×50 mL, 10%(v/v), 30-150 μm	70502-100
	4×250 mL, 10%(v/v), 30-150 μm	70502-1000
BeaverBeads™ IDA-Cobalt Kit-10	10 rxn kit(5 mL)	70502-K10
BeaverBeads™ NTA-Nickel	5 mL, 25%(v/v), 10-30 μm, great suspension	70521P-5
	10 mL, 25%(v/v), 10-30 μm, great suspension	70521P-10
	2×50 mL, 25%(v/v), 10-30 μm, great suspension	70521P-100

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BeaverBeads™ DEAE

BeaverBeads™ Magrose DEAE are weak anion exchange beads with fast magnetic response, high ion-exchange capacity and high protein binding capacity. The ion exchange ligand is diethylaminoethyl (DEAE), which is still able to maintain a stable high protein binding capacity even at pH 3 or 12 environment.

Compared to traditional column chromatography, Magrose DEAE beads do not require pretreatment of crude protein samples (e.g., repeated tedious centrifugation and time-consuming filtering operation). In addition, there is no need to control flow rates, column pressures, and no need expensive chromatography equipment. For skilled operators, they are able to complete the extraction of high purity protein in a very short period of time, and can easily parallelly treat a number of samples to achieve high-throughput protein purification.

Features

- Faster magnetic response and less operating time
- Magnetic beads have good dispersion and resuspension, convenient operation
- The ligand has stable physical and chemical characteristics, improving the reliability and repeatability of the experimental results

Product Information

Product Name	BeaverBeads™ Magrose DEAE (Cat.No.70809)
Bead size	30~150 μm
Ion-exchange type	Weak anionic group
Ion-exchange capacity	110~170 μmol/mL Gel
Protein Binding capacity	≥ 30 μg rabbit IgG/mg beads
Preserving solution	20% ethanol
Suspension concentration	10%(v/v) magnetic beads suspension
Preservative temperature	24 months at 2-8 ℃
Working pH range	3-12

Note 1: Protein binding capacity is related to the target protein characteristics, above data is only for reference.

Note 2: 1 mL magnetic beads suspension contains 100 μL of magnetic beads.

Product List

Product Name	Specification	Cat. No.
BeaverBeads™ DEAE	5 mL, 10%(v/v), 30-150 μm	70809-5
	2×50 mL, 10%(v/v), 30-150 μm	70809-100
	4×250 mL, 10%(v/v), 30-150 μm	70809-1000

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BeaverBeads™ Magrose Heparin

BeaverBeads™ Magrose Heparin magnetic beads have rapid magnetic response, high heparin density, high physical and chemical stability and so on. On the one hand, it can be used as a ligand for affinity chromatography and can specifically bind to biological molecules such as growth factor and antithrombin AT III. On the other hand, Magrose Heparin beads can be used as a cation exchange medium because of their large amount of negatively charged sulfate ion groups. They have strong binding ability to positively charged proteins at a certain pH. It is suitable for the separation and purification of biological macromolecules like anticoagulant factor III, coagulation factor, nucleic acid binding protein, lipoprotein, interferon, steroid receptor, thrombin and thrombin-like.

Product Information

Product Name	BeaverBeads™ Magrose Strep-Tactin (Cat. No.70807)
Bead size range	30~150 μm
Ligand content	3 mg Heparin/mL Gel
Binding protein capacity	2~3 mg Antithrombin III/mL Gel
Suspension concentration	10%(v/v) magnetic beads suspension
Preservative solution	20%(v/v) ethanol solution
Storage temperature	2°C~8°C

Note 1: The amount of magnetic beads protein binding is related to the target protein characteristics.
Note 2: 1 mL magnetic beads suspension contain 100 μL of magnetic beads.

Application Cases

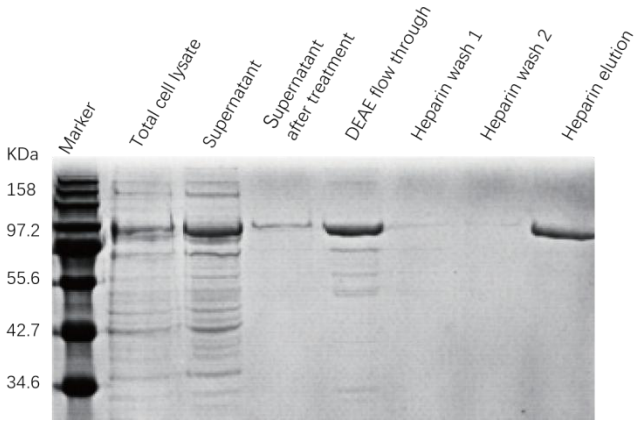

Fig.1 shows that BeaverBeads™ Magrose Heparin beads can specifically bind proteins and bind DEAE ion exchanging chromatography to ultimately achieve high purified target proteins (lane 8). And its purification recovery rate is higher than that obtained by heat treatment method (lane 4).

Fig.1 BeaverBeads™ Magrose Heparin purified proteins SDS-PAGE atlas

Product List

Product Name	Specification	Cat. No.
BeaverBeads™ Magrose Heparin	5 mL, 10%(v/v), 30-150 μm	70807-5
	2×50 mL, 10%(v/v), 30-150 μm	70807-100
	4×250 mL, 10%(v/v), 30-150 μm	70807-1000

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BeaverBeads™ GSH

BeaverBeads™ GSH is one type of new functional material designed for efficient and rapid purification of glutathione S-transferase (GST) fusion protein. It can extract the target protein with high purity from the biological samples in one step using magnetic separation method and it greatly simplifies the purification process and improves the efficiency of purification. This method is suitable for scientific research and industrial field to purify GST fusion protein.

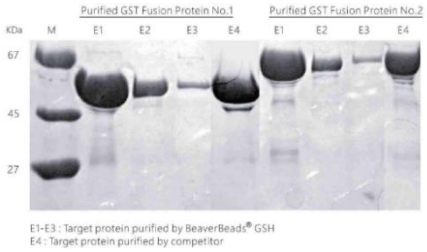
Product Information

Product Name	BeaverBeads™ GSH (Cat. No.70601)
Bead size range	30~150 μm
GSH ligand content	20~30 μmol/mL
Binding capacity	10 mg/mL gel
Suspension concentration	10%(v/v) magnetic beads suspension
Preservative solution	20%(v/v) ethanol solution
Storage temperature	4°C~30°C (For long term storage, 4°C~8°C is recommended.)
Chemical stability	At room temperature, magnetic beads solution can tolerate 1h of 70% ethanol, 6 M hydrochloride, 0.1 M hydroxide, 0.1 M acetic acid.

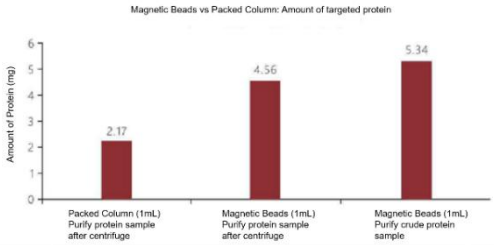
Note 1: The amount of magnetic beads protein binding is related to the target protein characteristics, where only reference values are given.

Note 2: 1 mL magnetic beads suspension contain 100 μL of magnetic beads.

Application Cases



Apply BeaverBeads™ GSH to purifying the protein. The protein purified by BeaverBeads™ GSH shows higher yield and purity than the one purified by competitor's.



Compared with traditional packed column, applying magnetic beads to purifying GST-Lif fusion protein shows better performance.

Product List

Product Name	Specification	Cat. No.
BeaverBeads™ GSH	5 mL, 10%(v/v), 30-150 μm	70601-5
	5 mL, 10%(v/v), 30-150 μm	70601-K10
	2x50 mL, 10%(v/v), 30-150 μm	70601-100
	4x250 mL, 10%(v/v), 30-150 μm	70601-1000

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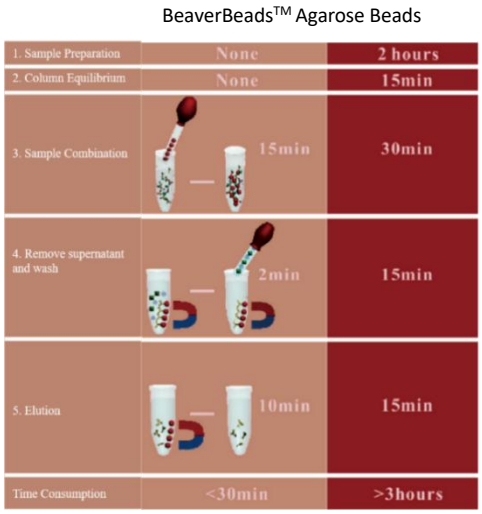
BeaverBeads™ Protein A / Protein G

BeaverBeads™ Protein A (or Protein G) antibody purification beads are NHS activated superparamagnetic beads covalent binding Protein A (or Protein G). Compared with the similar products in the market, the product has higher antibody binding capacity and lower protein non-specific adsorption rate, and the elution conditions are more homogeneous. The antibody can be separated from the serum sample by one-step purification, and the purity of the antibody is more than 90%. This product is reuseable, and suitable for the purification of antibodies in plasma, ascites, tissue culture supernatant and other samples.

Product Information

	Mag Protein A (Protein A/G) Cat. No.20102 (20202)	Magrose Protein A (Protein G) Cat. No.70804 (70805)
Bead size range	30~150 μm	30~150 μm
Concentration	30 mg/mL	10%(v/v)
Binding Protein	Protein A, Protein A/G	Protein A, Protein G
Raw Material	Polymer	Agarose
Antibody Binding Capacity	Protein A: 1.4-1.6 Human IgG/mL Protein A/G: 1.8-2.0 Human IgG/mL	25~30 mg Human IgG/mL Gel
Storage Temperature	2°C~8°C	2°C~8°C

Protocols

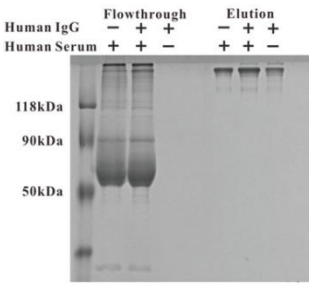


Compared with traditional chromatographic agarose gel purification, the process with BEAVER magnetic beads is easier, more time-saving and of milder conditions.

Fig.1 Comparison of BeaverBeads™ with chromatographic-agarose gel purification

Application Cases

1. High antibody binding ability



Protein A Matrix beads extract the antibody IgG from 10-fold diluted human serum, which is the same or even higher than the purity of IgG extracted directly from serum.

Fig.2 SDS-PAGE Electrophoretic profile of ultra-low nonspecific adsorbed proteins with BeaverBeads™ Protein A

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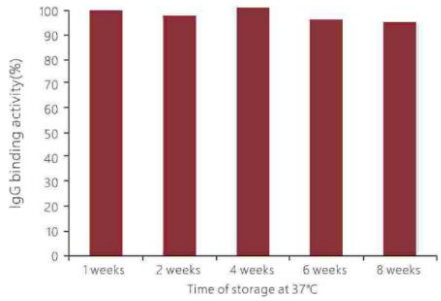
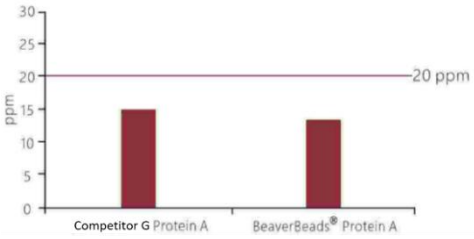
2. High stability



The magnetic beads were incubated at 37 ℃ for 8 weeks, and the antibody binding efficiency was not attenuated, which indicated that the beads had good stability.

Fig.3 BeaverBeads ™ Protein A Matrix Magnetic Beads Stability Test

3. Low protein A ligand shedding rate



Protein A residues in antibody purification products for BEAVER magnetic beads are lower than US FDA standards (20 ppm).

Fig.4 Protein A ligand off test illustration

Product List

Product Name	Specification	Cat. No.
BeaverBeads™ Protein A Kit	1 mL, 30 mg/mL, 2 μm	20102-1
	5 mL, 30 mg/mL, 2 μm	20102-5
	25 mL, 30 mg/mL, 2 μm	20102-25
BeaverBeads™ Protein A/G Kit	1 mL, 30 mg/mL, 2 μm	20202-1
	5 mL, 30 mg/mL, 2 μm	20202-5
	25 mL, 30 mg/mL, 2 μm	20202-25
BeaverBeads™ Magrose Protein A	5 mL, 10%(v/v), 30-150 μm	70804-5
	100 mL, 10%(v/v), 30-150 μm	70804-100
	5 mL, 10%(v/v), 10-30 μm	70814-5
	100 mL, 10%(v/v), 10-30 μm	70814-100
	500 mL, 10%(v/v), 10-30 μm	70814-500
BeaverBeads™ Magrose Protein G	5 mL, 10%(v/v), 30-150 μm	70805-5
	100 mL, 10%(v/v), 30-150 μm	70805-100
	5 mL, 10%(v/v), 10-30 μm	70815- 5

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BeaverBeads™ Magrose Strep-Tactin

The Strep-Tactin beads based on superparamagnetic beads are designed for rapid and efficient separation Strep II-tag protein. The Strep II-tag is a synthetic peptide consisting of eight amino acids (Trp-Ser-His-Pro-Gln-Phe-Glu-Lys). Generally, it does not affect the structure and function of the fused protein. Thus, there is no need for removing the tag. Strep-tagged proteins can be isolated in one step from crude cell lysates. The proteins obtained are bioactive and display a very high purity (above 99%).

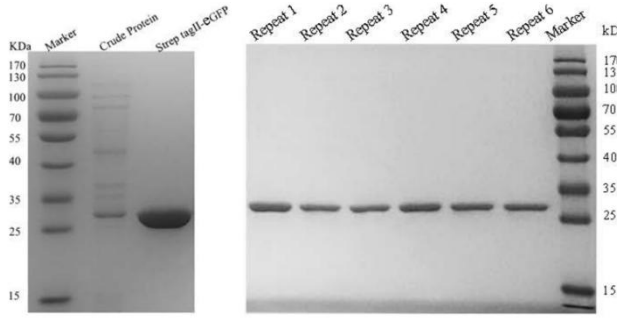
Product Information

Product Name	BeaverBeads™ Magrose Strep-Tactin (Cat. No.70808)
Bead size range	30~150 μm
Ligand content	~6 mg Strep-Tactin/mL Gel
Binding protein capacity	~7 mg Strep-tag II protein/mL Gel
Suspension concentration	10%(v/v) magnetic beads suspension
Preservative solution	1×PBS (0.1% Tween-20+0.05% NaN_3)
Storage temperature	2°C~8°C

Note 1: The binding amount of magnetic beads protein is related to the target protein characteristics.

Note 2: In order to facilitate transportation, it is used pure water preservation for shipment. Recommend to store at 20% ethanol solution for long time preservation.

Application Cases



Strep-tag II-eGFP targeted protein can be rapidly extracted under physiological conditions with the help of BeaverBeads™ Magrose Strep-Tactin. Repeat the process and the purity of target protein extracted is over 99%.

Fig.1 SDS-PAGE spectrum of purifying Strep-tag II-eGFP protein with BeaverBeads™ Magrose Strep-Tactin

Product List

Product Name	Specification	Cat. No.
BeaverBeads™ Magrose Strep-Tactin	5 mL, 10% (v/v), 30-150 μm	70808-5
	50 mL, 10% (v/v), 30-150 μm	70808-50
	250 mL, 10% (v/v), 30-150 μm	70808-250
BeaverBeads™ Magrose Strep-Tactin Kit	5 mL, 10%(v/v), 30-150 μm	70808-K10

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BeaverBeads™ for Nucleic Acid Extraction

BeaverBeads™ Circulating DNA Kit

BeaverBeads™ Circulating DNA Kit is using superparamagnetic microspheres and pre-made buffers to extract circulating DNA from 0.2~4 mL serum or plasma in a fast and efficient way. The quality of the extracted sample is stable and reliable, and can be used for PCR amplification, sequencing and detection.

Features

- Recovery rate >85%
- Compatible with 0.2-4 mL cell-free DNA samples
- Single sample automatic extraction

Application Cases

Recovery efficiency verification

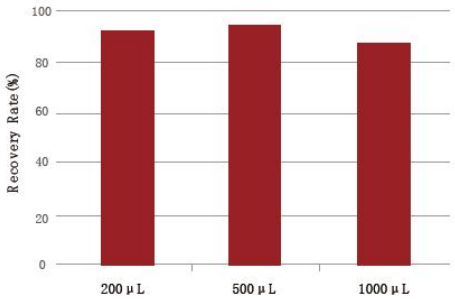

Fig.1 The recovery rate of DNA Fragments in different sample volumes by BeaverBeads™ Circulating DNA Kit

BeaverBeads™ Circulating DNA Kit has more than 85% recovery rate for target nucleic acid fragments in a sample volume of 0.2-4 mL.

Extraction of free DNA from plasma and urine samples

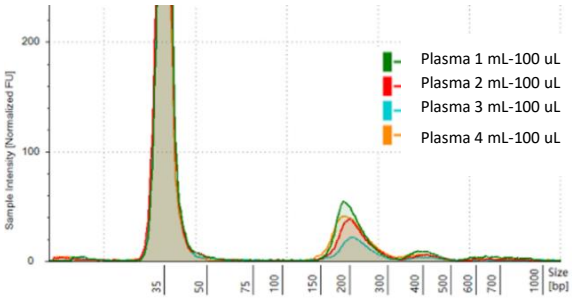

Fig.2 Analysis data of cell-free DNA by Agilent 4150

BeaverBeads™ Circulating DNA Kit is used to extract cell-free DNA from plasma. As the sample volume increases from 1 mL, 2 mL, 3 mL to 4 mL, the amount of cell-free DNA recovered increases proportionally. And the obtained cell-free DNA is of high purity, basically no large fragments remain.

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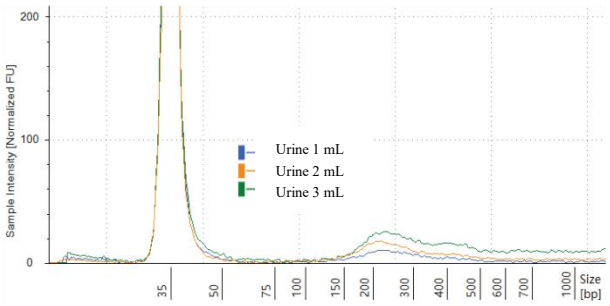

BeaverBeads™ Circulating DNA Kit is used to extract cell-free DNA from urine. As the sample volume increases from 1 mL, 2 mL, 3 mL to 4 mL, the amount of cell-free DNA recovered increases proportionally.

Fig.3 Analysis data of cell-free DNA by Agilent 4150

Clinical sample verification (fully automated)

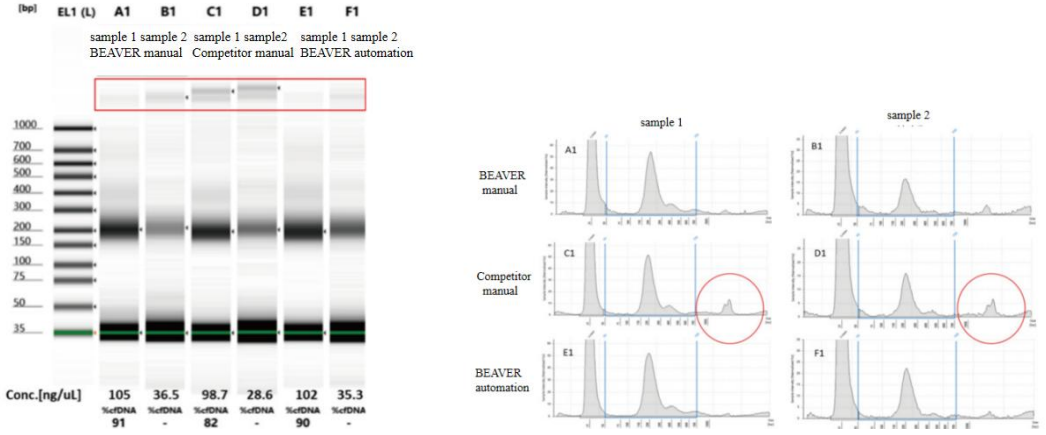

Fig.4 Analyzes cell-free DNA extracted from clinical samples by Agilent 4150

The concentration and purity of cell free DNA obtained by automated extraction and manual extraction are basically same. Compared with competing products, the concentration of free DNA extracted is 10% higher than that of competing products, the purity is higher, and there is no large fragment residue.

Product list

Product Name	Specification	Cat. No.
BeaverBeads™ Circulating DNA Kit	1 mL sample, 100 rxns	70404-100
	4 mL sample, 50 rxns	70404L-50
	1 mL sample, 100 rxns, automated	70404II-100
	1-4 mL sample size, 24 rxns, type: Circulating DNA III	70404III-24

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BeaverBeads™ Saliva DNA Kit

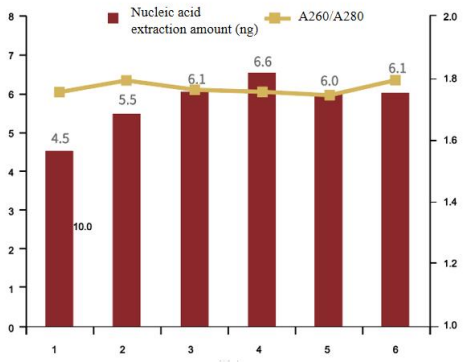
BeaverBeads™ Saliva DNA Kit is applicable for rapid and efficient extraction of genomic DNA from saliva samples. The extraction process doesn't need centrifugation and the reaction system can be adjusted according to the amount of samples added. This product can be extracted manually for 0.2-1.0 mL saliva samples, also be applied to high throughput operation with automatic workstation. The extracted product can be used for the following experiments such as enzyme digestion, PCR amplification and detection.

Features

- Reaction system can be adjusted as needed
- Conduct sample lysis and nucleic binding synchronously, especially suitable for automation
- Remove impurities efficiently, such as protein and inorganic salt, A260/280 value >1.7
- No toxic solvents such as phenol and chloroform

Application Cases

Extraction Yield Test



Extract DNA from 200 μL saliva sample and then measure the amount of DNA with Nanodrop. The yield of DNA reaches 4-6 μg and with purity: A260/A280 1.7-1.8.

Product List

Product Name	Specification	Cat. No.
BeaverBeads™ Saliva DNA Kit	100 rxns	70405-100

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BeaverBeads™ Viral DNA/RNA Kit

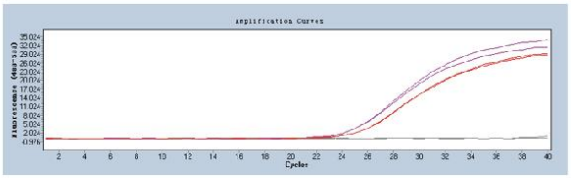
BeaverBeads™ Viral DNA/RNA Kit is composed of superparamagnetic magnetic beads as microcarriers for nucleic acid separation and extraction and high-efficiency biological reagent. It is suitable for the extraction of viral DNA and RNA from fresh or frozen samples of plasma, serum, urine, secretion, virus concentrate, virus preservation fluid, cell culture supernatant, or acellular body fluids. The purified samples can be directly used for PCR detection, digestion and other nucleic acid detection tests.

This product can be compatible with various models of nucleic acid extraction instruments and automatic extraction workstation. Whole extraction process can be finished within 9 mins.

Application Cases

1. Viral DNA extraction results

Sample	BEAVER (Ct)	Competitor (Ct)
HBV serum	24.55	25.21

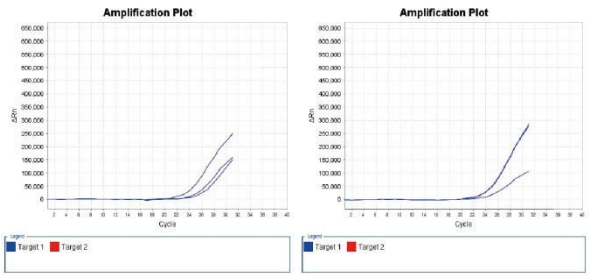


Test data show that BeaverBeads™ Viral DNA/RNA kit extracts DNA more efficiently than competitor on HBV sample extraction.

2. Viral RNA extraction results

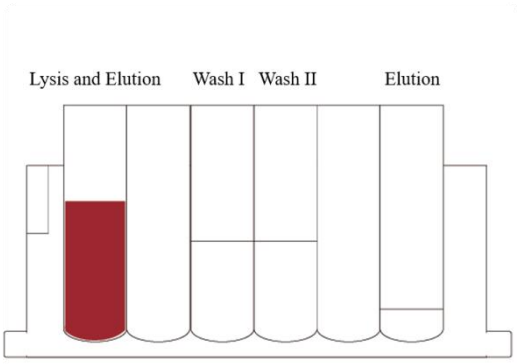
Brand	HCV	Conc. (copies/mL)	Ct
BEAVER	300	300	24.08
	E3	1000	24.38
	E4	10000	21.00

BeaverBeads™ Viral DNA/RNA Kit extracts small volume of virus RNA as efficiently as competitor on HCV sample extraction.



3. Rapid viral nucleic acid extraction

BeaverDevice™ Rosetta 32 automated extraction instrument with BeaverBeads™ Viral DNA/RNA Kit (prefilled) can extract viral nucleic acid within 10 mins.



32-rxn Kit Well Placement Illustration

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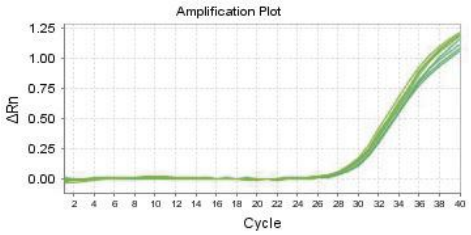
Sample	Automatic Operation	Manual Operation
1	30.08	29.86
2	30.19	30.25
3	30.68	30.59
4	30.33	30.67



Product list

Product Name	Specification	Cat. No.
BeaverBeads™ Viral DNA/RNA Kit	32 rxns, prefilled, V bottom	70406-32FV
	32 rxns, prefilled, U bottom	70406-32FU
	48 rxns, prefilled, V bottom	70406-48FV
	48 rxns, prefilled, U bottom	70406-48FU
	96 rxns, prefilled, V bottom	70406-96FV
	96 rxns, prefilled, U bottom	70406-96FU
	100 rxns, bottle	70406-100

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BeaverBeads™ Viral DNA/RNA Kit for Animal

BeaverBeads™ Viral DNA/RNA Kit for Animal is suitable for rapid and efficient extraction of viral DNA or RNA from whole blood, serum, plasma, cell-free body fluid, cell culture supernatant virus preservation solution, animal tissue, saliva, swab, environment, etc.

The kit has pre-filled version, suitable for various types of magnetic rod automatic nucleic acid extractors.

Features

- Automated, high throughput: 25 mins (up to 96 samples)
- For multiple complex samples: including blood, tissue, sewage, environment and other complex samples
- Recovery rate up to 90%

Application Case

1. Performance comparison of different brands of Viral DNA/RNA Kit for Animal

Experimental samples: add different concentrations of ASFV pseudo virus quality control in blood, saliva, tissue and sewage samples accordingly.

Experimental method and materials: with BeaverDevice™ Rosetta 96, extract ASFV virus nucleic acid from blood, saliva, tissue and sewage samples using BeaverBeads™ Viral DNA/RNA Kit for Animal and competitor kit.

Conclusion: qPCR results show that BeaverBeads™ Viral DNA/RNA Kit for Animal has a higher detection rate in critical concentration or complex samples.

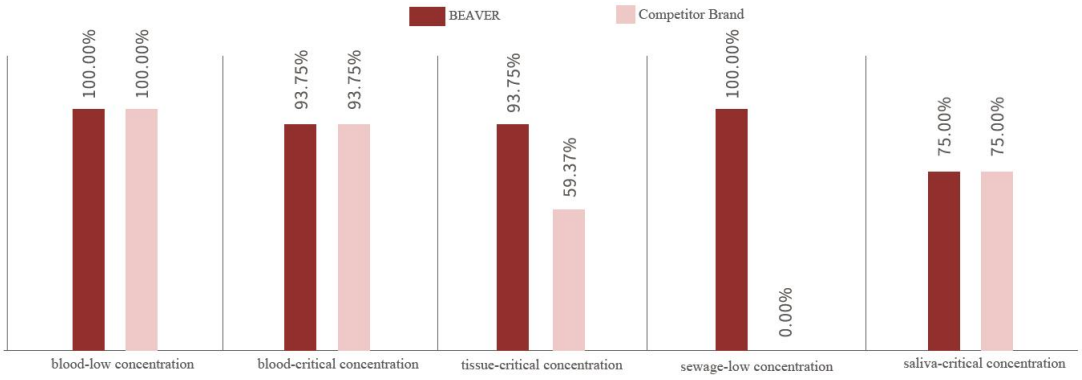

Fig.1 Performance comparison with different brand of Viral DNA/RNA Kit for Animal

2. Client data - a large agricultural and animal husbandry company in Beijing

Experimental samples: pig blood, liver, lung, spleen samples

Experimental method and materials: BeaverBeads™ Viral DNA/RNA Kit for Animal and competitor kit, with automatic nucleic acid extraction instrument

Conclusion: The qPCR results show that Ct value of the BeaverBeads™ Viral DNA/RNA Kit for Animal is smaller than that of competitor kit in different samples and different ASFV concentrations, also the Ct value is 1-2 smaller in samples with low virus concentration.

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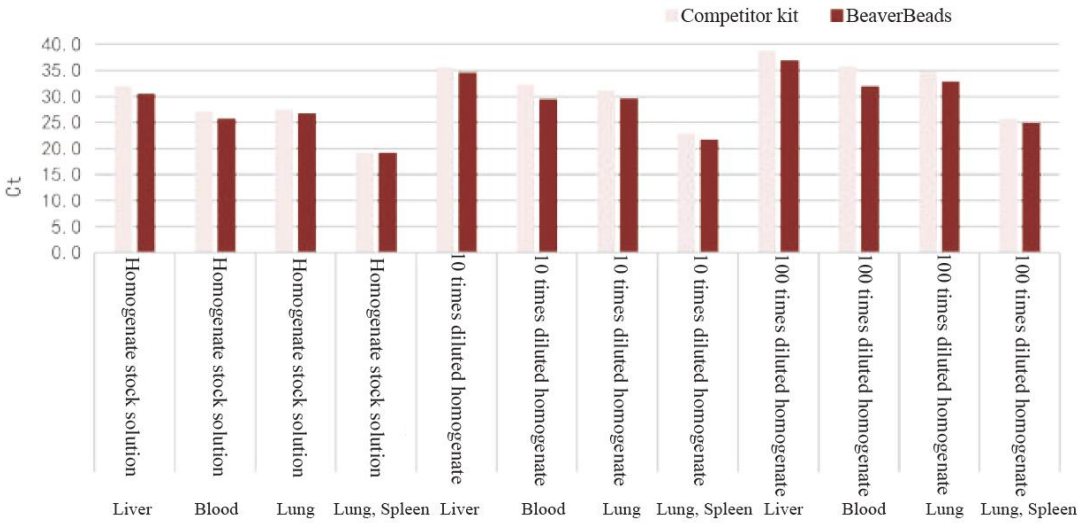

Fig.2 Performance comparison of Viral DNA/RNA Kit for Animal using

Product List

Product Name	Specification	Cat. No.
BeaverBeads™ Viral DNA/RNA Kit for Animal	20 rxns, trial	70416-20
	32 rxns	70416-32
	96 rxns	70416-96
	100 rxns	70416-100
BeaverBeads™ Viral DNA/RNA Kit for Animal II	20 rxns	70416II-20
	100 rxns	70416II-100
	8T/plate; 4 plates/box	70416II-32U
	16T/plate; 4 plates/box	70416II-64U
BeaverBeads™ Viral DNA/RNA Kit for Animal III	20T/box	70416III-20

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BeaverBeads™ Stool DNA/RNA Kit

BeaverBeads™ Stool DNA/RNA Kit is using pre-made buffers to extract DNA of human intestinal flora genome from stool sample quickly and efficiently. It can adjust reaction system according to the sample size as well. This product is suitable for both automatic and manual operation. The extracted sample can be used for PCR amplification, sequencing and detection.

Features

- Automation solution for 200 µL-10 mL samples
- High yield: more than 2 µg from 200 mg samples
- Excellent stability
- No toxic solvent: such as no phenol and chloroform

Application Cases

1. Recovery rate

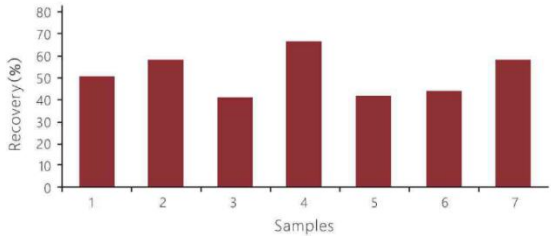

Fig.1 Recovery rate of DNA fragments from different samples

Add exogenous DNA fragment to stool samples, then use BeaverBeads™ Stool DNA/RNA Kit to recover nucleic acid fragment and quantify it with qPCR (see Fig.1). The result shows that the average recovery rate of the target fragment with BEAVER products is about 60% in different samples.

2. Extraction rate

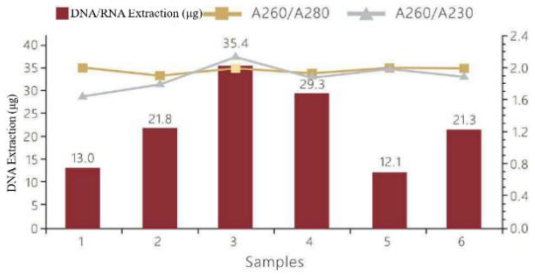

Fig.2 Total DNA extracted by BEAVER product from different stool samples

Use BeaverBeads™ Stool DNA Kit to extract DNA from 200 mg human stool sample and use Qubit equipment to test DNA content (see Fig. 2). The result shows DNA yield is 12-35 µg and A260/A280 > 1.8, A260/A230 is about 2.0. The extracted DNA has high purity.

3. Average comparison

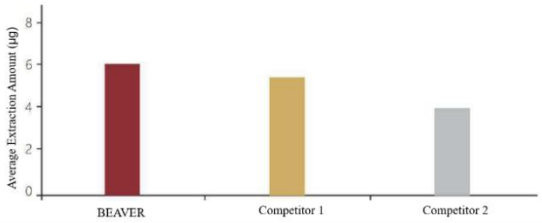

Fig.3 Average sample extraction from different brands

Use stool DNA kits of different brands to extract the same 200 mg sample, average extracted amounts are showed in Fig.3 BeaverBeads™ Stool DNA kit performance is superior to others'. BeaverBeads™ Stool DNA Kit has excellent extraction efficiency.

Product List

Product Name	Specification	Cat. No.
BeaverBeads™ Stool DNA/RNA Kit	100 rxns	70411-100

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BeaverBeads™ Blood DNA Kit

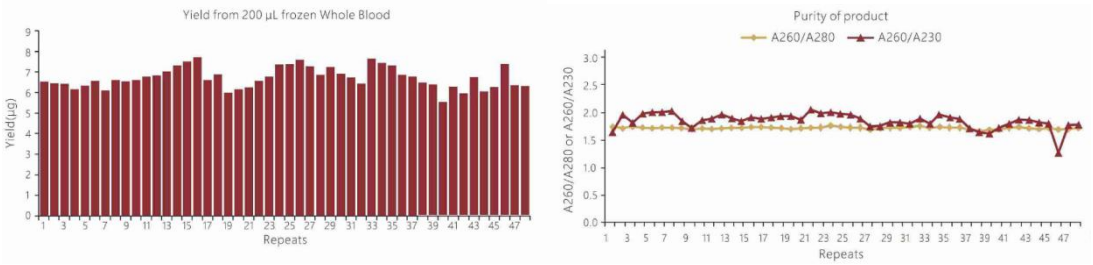
BeaverBeads™ Blood DNA Kit consists of superparamagnetic microspheres and pre-made buffers to extract genome from anticoagulated blood, serum and plasma simply and efficiently. The product is able to work with automatic nucleic acid extraction workstation and thus performs more rapidly. The quality of the extracted DNA is stable and reliable, and can be used for PCR amplification, sequencing and detection.

Features

- Bind DNA efficiently and capable to extract 4~6 μg DNA directly from 200 μL blood
- Conduct sample lysis and nucleic binding synchronously, especially suitable for automation
- Remove impurities efficiently, such as protein and inorganic salt, A260/280 >1.7, A260/230 >1.8

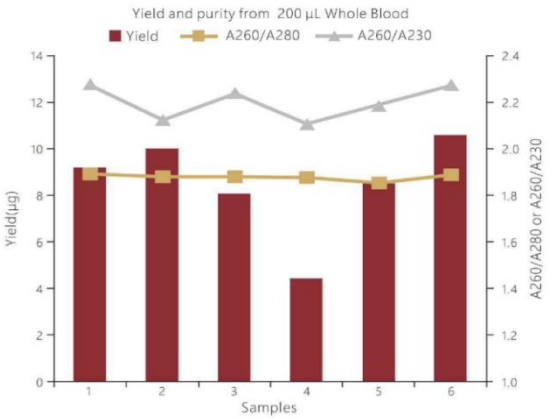
Application Cases

1. Automatic extraction of frozen blood genomic DNA by workstation (Apricot TPS-EZ, parallel test)



As illustrated, use BeaverBeads™ Blood DNA Kit to perform automatic extractions of frozen blood genomic DNA from the same sample by workstation TPS-EZ. In all repeated experiments, about 6 μg DNA is extracted directly from 200 μL blood; the purity of DNA extracted is: A260/280 value is 1.7-1.8, A260/230 value is 1.8-2.0. The amount and purity meet the requirement and the performance is stable.

2. Different blood samples genomic DNA extraction test



As illustrated, use BeaverBeads™ Blood DNA Kit to perform automatic extraction of blood genomic DNA from different samples by TPS-EZ. The purity of DNA extracted meets requirements: A260/280 value is 1.7 - 2.0, A260/230 value is over 2.0; For well-preserved samples, over 8 μg DNA is extracted; while for sample 4 with blood coagulation, over 4 μg DNA can still be extracted.

Product List

Product Name	Specification	Cat. No.
BeaverBeads™ Blood DNA Kit	100 rxns, bottle packed, can fit for automation	70423-100
	100 rxns, bottle packed, no-ethonal	70423II-100
	32 rxns, V bottom prefilled plates, no ethonal	70423II-32V

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	32 rxns, U bottom prefilled plates, no ethonal	70423II-32U
BeaverBeads™ Blood DNA Kit	96 rxns, V bottom prefilled plates, no ethonal	70423II-96V
	96 rxns, U bottom prefilled plates, no ethonal	70423II-96U

BeaverBeads™ RNA Kit for multiple samples

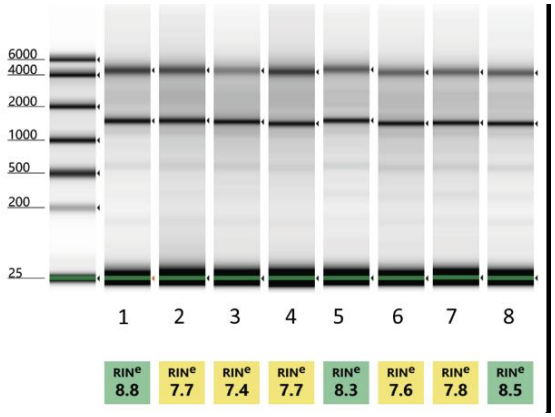
BeaverBeads™ RNA Kit for multiple samples is used to rapidly and efficiently extract total RNA from blood, tissue, cell samples and etc. This product can be manually used for a small amount of samples, but also suitable for high-throughput automated workstations. Extracted RNA can be used for RT-PCR, Northern Blot, Dot Blot, in vitro translation and other follow-up experiments.

Features

- Simple operation: no erythrocyte lysis or heating steps
- High compatibility: suitable for blood samples treated with different anticoagulants
- Fully automation: one-step lysis and binding, no manual operation
- Safety: without poisonous reagents, no phenol or chloroform

Application Cases

Samples 1, 2, 3 and 4 were extracted by automated instrument with one-step lysis and binding method; Samples 5, 6, 7 and 8 were extracted by manual operation.



The RNA Kits with automated operation using one-step lysis and binding method and manual operation show similar concentration. Most RIN values are mostly over 7.5.

Product List

Product Name	Specification	Cat. No.
BeaverBeads™ RNA Kit	100 rxns	70433-100

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BeaverBeads™ Wastewater Nucleic Acid Kit

BeaverBeads™ Wastewater Nucleic Acid Kit contains superparamagnetic microsphere and prefabricated buffer, which is applicable to the viruses, bacteria and other microorganisms in sewage samples from life, medical institutions and public places, as well as the samples enriched by aluminum salt coagulation precipitation and other method. This product can be used for both manual and automatic high-throughput operation. The extracted product can be used in subsequent experiments such as enzyme digestion, PCR amplification and library construction.

Features

- Wastewater sample volume 1-5 mL
- No redundant pre-processing
- 24 samples automated processing in 38 mins

Application Cases

1. Comparison of the methods between enrichment & concentration and BEAVER direct extraction

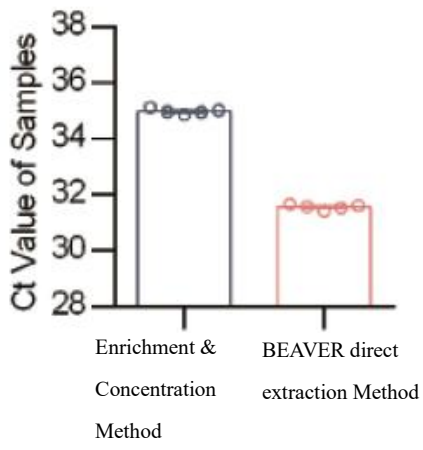

Fig.1 Results of Virus Nucleic Acid qPCR in Wastewater Samples

Test sample: 5 wastewater samples (taken from industrial wastewater outlet), with RNA virus quality control added.

Experimental methods and materials: enrichment and concentration method in combination with competitor wastewater nucleic acid kit and BEAVER wastewater nucleic acid kit.

The results are shown in Fig.1, compared with the enrichment and concentration method, detect the target virus RNA by qPCR, the Ct values of BEAVER product is 2-3 smaller.

Note: Enrichment and concentration method is operated by the “Standard for Enrichment and Concentration of Novel Coronavirus and Nucleic Acid Detection Method in wastewater WS/T 799-2022”.

2. Performance comparison of different brands of nucleic acid direct extraction kits with magnetic beads

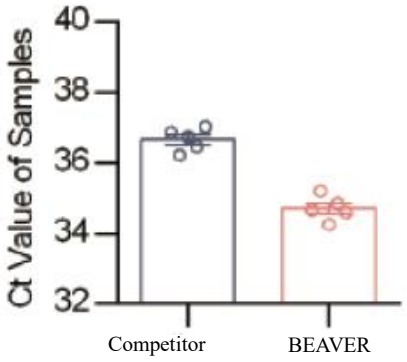

Fig.2 Results of Virus RNA qPCR in Wastewater Samples

Test samples: 5 wastewater samples (taken from the industrial wastewater outlet, centrifuge and then take 1 mL of supernatant accordingly), each add with RNA and DNA virus quality control samples.

Experimental methods and materials: BEAVER Wastewater Nucleic Acid Kit, and competitor wastewater nucleic acid kit.

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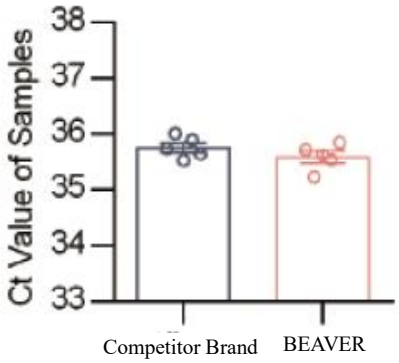

Fig.3 Results of Virus DNA qPCR in Wastewater Samples

As shown in Fig.2 and Fig.3, the nucleic acid extraction effect of BEAVER kit is significantly better than that of the competitor brand kit.

Product List

Product Name	Specification	Cat. No.
BeaverBeads™ Wastewater Nucleic Acid Kit	5 rxns	70426-5
	50 rxns	70426-50
	24 rxns	70426II-24

BeaverBeads™ Bacterial Genomic DNA Kit

The Bacterial Genomic DNA Kit can extract genomic DNA from bacterial samples based on magnetic beads method. Using magnetic beads after lysis of Gram positive or negative bacteria, its genomic DNA will be enriched and extracted with high efficiency and purity. The extracted sample can be directly used in enzyme digestion, PCR, next generation sequencing, gene chip, Southern hybridization and other experiments.

Features

- Fast operation: The process duration is 40 mins
- No contamination: No RNA or protein contamination
- Wide range: Applicable to all bacteria
- No poison: No toxic organic solvents such as phenol and chloroform

Application Cases

Table 1: Nanodrop detection concentration

Sample	Brand	Sample Size	Concentration (ng/μL)	Total (μg)	A260/A280	A260/A230
Bacillus Subtilis	T Kit	3.5×10^8cells	77.4	7.74	1.91	1.62
	BEAVER Kit		92.72	9.27	1.85	1.69
Escherichia Coli	T Kit	2.0×10^8cells	96.85	9.69	1.85	1.71
	BEAVER Kit		117.15	11.71	1.87	2.05

Use the BEAVER Bacterial Genomic DNA Kit to extract bacterial genomic DNA from different sources and then detect the concentration and integrity of DNA. The specific data are as follows:

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1. DNA concentration/purity comparison test

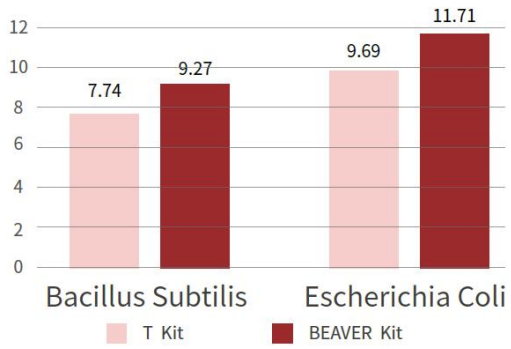

Fig.1 Comparison diagram of extracted DNA yield with different brands of Bacterial Genomic DNA Kits

Conclusion: the total amount of DNA measured is >6 μg. And A260/A280 ≥ 1.7 by Nanodrop testing, indicating that the extracted DNA is of high purity. for different kinds of bacterial samples, yield, purity and efficiency of DNA products extracted by BEAVER Kit are better than those of competitors.

2. **DNA Integrity Test:** extract the Genomic DNA of Escherichia Coli and detect the integrity by gel electrophoresis.

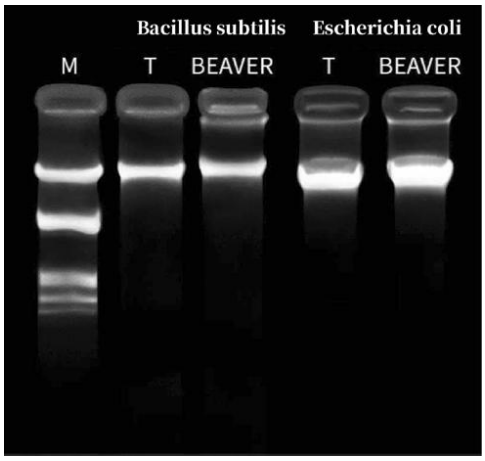

Fig.2 Comparison of integrity of genomic DNA extracted products of BEAVER and T brand bacteria kit.

Conclusion: gel electrophoresis shows that the concentration of bacterial DNA extracted by BEAVER Kit is higher than that of competitor products, and the integrity is better.

Product List

Product Name	Specification	Cat. No.
BeaverBeads™ Bacterial Genomic DNA Kit	10 rxns	70408-10
	100 rxns	70408-100

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BeaverBeads™ Tissue DNA Kit

BeaverBeads™ Tissue DNA Kit (Cat.No.70443) provides a simple, fast and efficient method for DNA extraction from fresh tissue. After tissue samples are treated by tissue digestion solution and lysate, genomic DNA will be enriched on the surface of magnetic beads, and after washing and elution, high-yield and high-purity DNA can be obtained. Extracted product can be used in PCR, Real-time PCR, SNP genotyping, STR genotyping, second-generation sequencing and pharmacogenomics research, etc.

Features

- High-throughput, automated: up to 96 samples can be extracted in 40 mins
- High yield: 1-5 μg DNA can be extracted per mg of tissue sample
- High purity: A260/A280 is between 1.8-1.9, A260/A230≥1.9

Application Cases

Use the BeaverBeads™ Tissue DNA Kit to extract 10-15 mg of different animal tissues DNA, and detect the concentration and integrity of the DNA by Nanodrop and electrophoresis.

1. **DNA concentration/purity detection:** the total amount of DNA measured can reach to 10 μg; and A260/A280≥1.9 by Nanodrop detection, indicating that the extracted DNA has high yield and high purity.

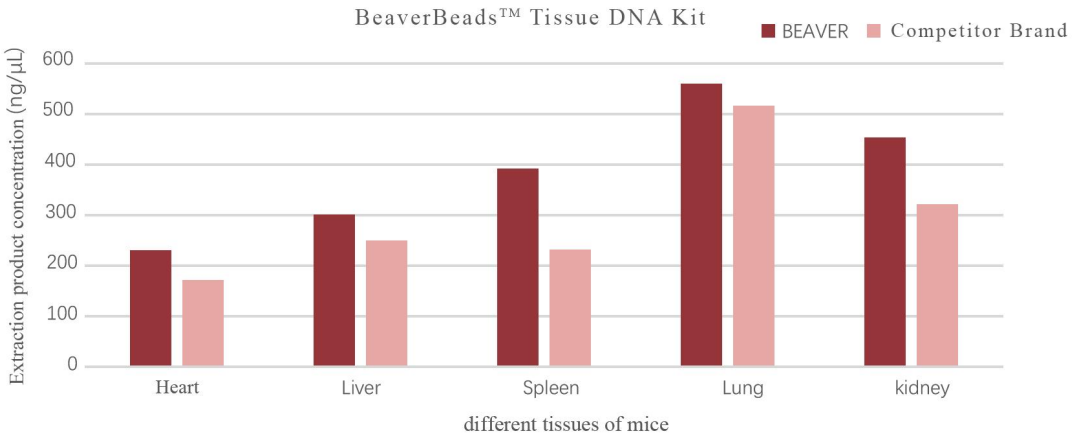

Fig.1 The amount of DNA extracted from different tissues of mice

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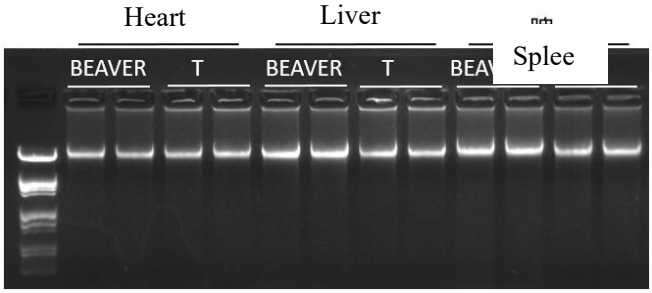
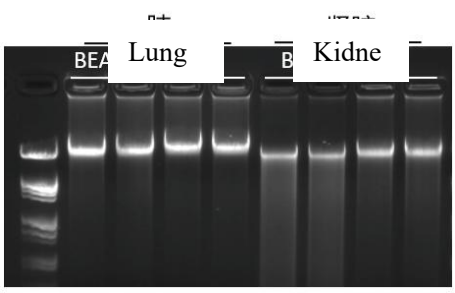
2. **DNA integrity test:** extract 10-15 mg of different tissues DNA, and then add 2 μL of the extracted DNA into each well. The concentration of agarose is 1%, 120V voltage, and run for 35 minutes to check the integrity. Compared with competitor T, BeaverBeads™ Tissue DNA Kit has better integrity.



Lane 1：marker
Lane 2-5：mouse heart
Lane 6-9：mouse liver
Lane 10-13：mouse spleen



Lane 1：marker
Lane 2-5：mouse lung
Lane 6-9：mouse kidney

Product List

Product Name	Specification	Cat. No.
BeaverBeads™ Tissue DNA Kit	20 rxns	70443-20
	100 rxns	70443-100

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Web: en.beaverbio.com Email: service@beaverbio.com

BeaverBeads™ Plant DNA Kit

BeaverBeads™ Plant DNA Kit is suitable for fast and efficient extraction of DNA from plant samples using superparamagnetic microspheres. The pre-made buffer can be directly used for extraction, or can be adjusted according to the amount of sample added. This product can be used for manual extraction of a small amount of samples, and is also suitable for high-throughput operations with automated workstations. The extracted product can be used for enzyme digestion, PCR amplification, detection and other follow-up experiments.

Features

- Alcohol free system make lysis more efficient
- Suitable for different tissue samples of plants especially complicated samples such as seed
- Room temperature lysis to make DNA more stable, no need water bath incubation

Application Cases

Experimental samples: bamboo leaves (50 mg), soybean seeds (50 mg)

Experimental methods and materials: BeaverBeads™ Plant DNA Kit and competitor kit

Conclusion: The results of Nanodrop test and agarose electrophoresis show that the yield and integrity of the extracted products of BeaverBeads™ Plant DNA Kit are significantly better than those of competing products, especially for the extraction of seed samples is more complicated.

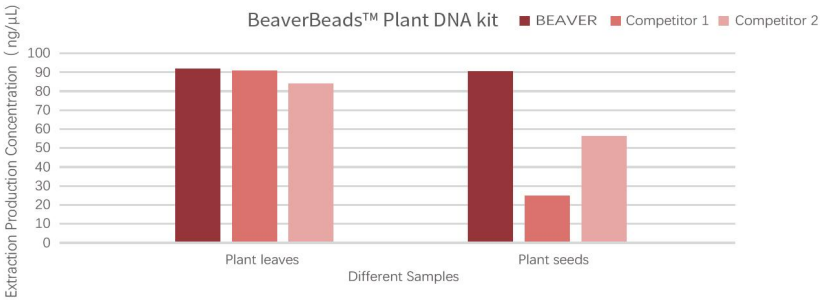
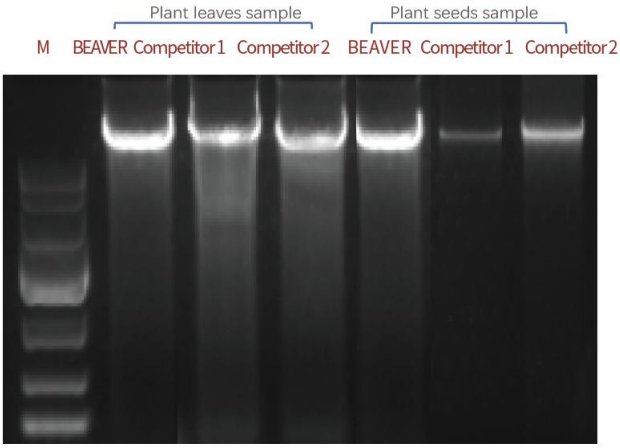


Fig.1 Add 10 μL samples of extracted DNA to each well, Agarose concentration is 1%, voltage is 120V, and the gel is run for 35 mins.



Lane 1：Marker
Lane 2：Samples of plant leaf extracted by BeaverBeads™ Plant DNA Kit
Lane 3：Samples of plant leaf extracted by Competitor 1
Lane 4：Samples of plant leaf extracted by Competitor 2
Lane 5：Samples of plant seed extracted by BeaverBeads™ Plant DNA Kit
Lane 6：Samples of plant seed extracted by Competitor 1
Lane 7：Samples of plant seed extracted by Competitor 2

Product List

Product Name	Specification	Cat. No.
BeaverBeads™ Plant DNA Kit	20 rxns	70409-20
	100 rxns	70409-100

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BeaverBeads™ Pathogen DNA/RNA Kit

BeaverBeads™ Pathogen DNA/RNA Kit is suitable for extracting DNA and RNA of pathogenic microorganisms from biological samples such as blood, sputum, alveolar lavage fluid and cerebrospinal fluid. The extracted products can be used for downstream applications, including PCR, Real-Time PCR, metagenomic library construction, DNA/RNA co-construction, etc..

Features

- Suitable for serum, plasma, sputum, swabs and other samples
- Enzymatic treatment without mechanical wall breaking
- DNA/RNA co-extraction
- No background bacteria

Application Case

Blood sample extraction and verification

Sample: 200 μL blood

Microorganisms: Bacillus subtilis (1×10^3 cfu/mL), Escherichia coli (1×10^4 cfu/mL), Saccharomyces cerevisiae (1×10^5 cfu/mL), DNA pseudovirus, RNA pseudovirus

Kits: BeaverBeads™ Pathogen DNA/RNA Kits and Competitor Extraction Kits

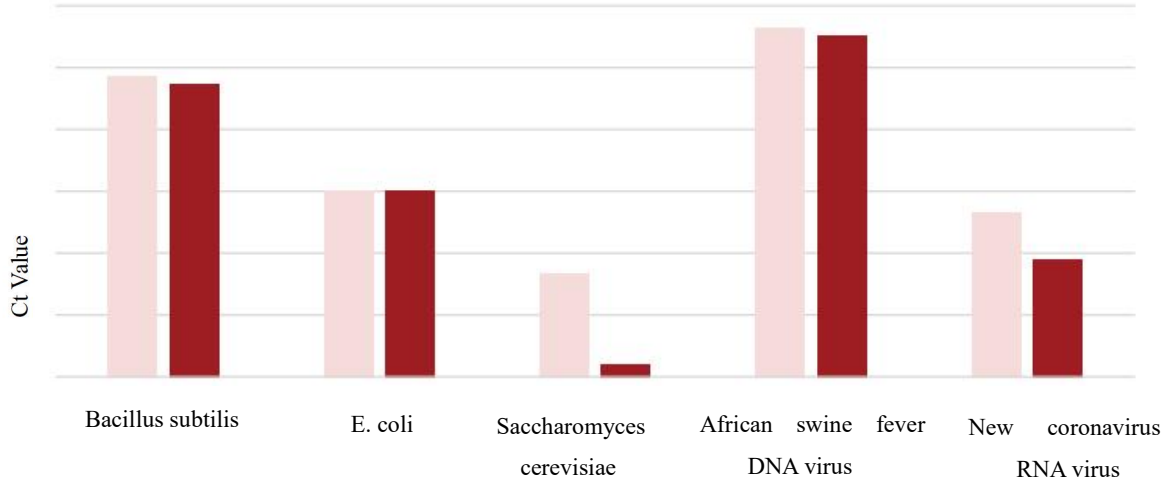

Fig.1 Data comparison (Ct value) of qPCR detection of products extracted from different brands of kits (100 μL eluation buffer)

Conclusion: In blood samples, whether it is Gram-positive bacteria (Bacillus subtilis), Gram-negative bacteria (E. coli), fungi (Saccharomyces cerevisiae), or DNA pseudoviruses (African swine fever pseudovirus), RNA pseudoviruses (New coronavirus pseudovirus), the Ct values detected in the products extracted by BeaverBeads™ Pathogen DNA/RNA Kit are smaller than those of competitor's, indicating that the concentration and purity of the nucleic acids extracted by BEAVER Kit are higher.

Product List

Product Name	Specification	Cat. No.
BeaverBeads™ Pathogen DNA/RNA Kit	20 rxns	70410-20
	100 rxns	70410-100

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BeaverBeads™ for DNA Library Building

BeaverBeads™ Oligo dT

BeaverBeads™ Oligo dT, can couple with Poly A at the tail of mRNA in eukaryotes. BeaverBeads™ Oligo dT can efficiently separate complete mRNA from eukaryotic total RNA, animal and plant tissues or cell lysates with high purity. The isolated mRNA can be used in various molecular biological experiments: RT-PCR, solid phase DNA library construction, RACE, Northern, etc.

Features

- Abundant surface active sites and high mRNA capture efficiency
- Low nonspecific adsorption and high mRNA purity
- Uniform particle size, long time suspension, and low sedimentation rate
- Short magnetic response time, suitable for automatic operation
- Industrial scale production, with high stability of different lots

Product Information

Product Name	BeaverBeads™ Oligo dT	
Cat. No.	70430	70431
Bead size	2.8 μm	1 μm
mRNA binding ability	1-2 μg/mg bead	
Concentration	5 mg/mL	
Preservation fluid	1XPBS, 0.1%(v/v) proclin-300	
Storage	2~8°C	
Shelf life	2 years	
Applicable sample type	Total RNA, crude cell samples, animal tissue, plant tissue, etc.	

Application Cases

1. Total RNA of Human Cells

Target	Magnetic Beads	Mean Ct
GAPDH mRNA	Competitor D	22.56
	BEAVER	22.62
18S rRNA	Competitor D	26.06
	BEAVER	26.19

Sample source: total RNA of human cells

Sample volume: 300 ng total RNA

Amount of magnetic beads: 20 μL

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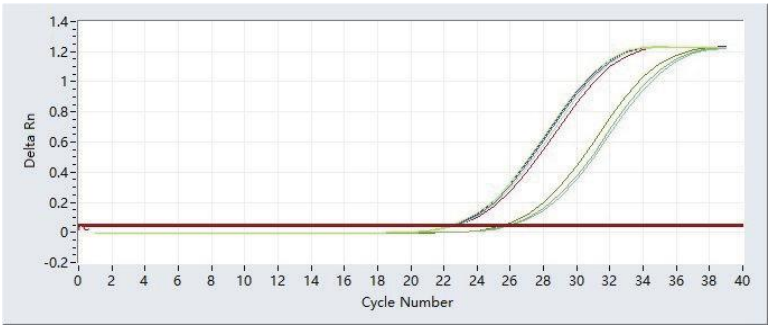
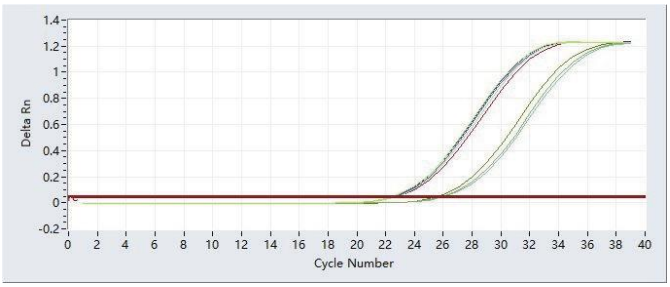


Conclusion: BeaverBeads™ Oligo dT appear suspension performance as splendid as the beads from competitor brand D. Purify mRNA from human cell total RNA sample. The difference of Ct value on mRNA (specificity) and sRNA(non-specificity) is < 0.1. BeaverBeads™ Oligo dT show high performance as the competitor's.

2. Total RNA of Plant

Target	Magnetic Beads	Mean Ct
GAPDH mRNA	Competitor D	22.63
	BEAVER	22.68
18S rRNA	Competitor D	26.04
	BEAVER	25.91



Sample source: total RNA of plant

Sample volume: 600 ng total RNA

Amount of magnetic beads: 20 μL

Conclusion: BeaverBeads™ Oligo (dT) appear suspension performance as splendid as the beads from Competitor D. Purify mRNA from plant cell total RNA sample, and perform quantitative detection by qPCR. The difference of Ct value on mRNA (specificity) and sRNA(non-specificity) is < 0.15. BeaverBeads™ Oligo dT show high performance as the competitor's.

Product List

Product Name	Specification	Cat. No.
BeaverBeads™ Oligo dT	1 mL, 5 mg/mL, 2.8 μm	70430-1
	2 mL, 5 mg/mL, 2.8 μm	70430-2
	5 mL, 5 mg/mL, 2.8 μm	70430-5
	100 mL, 5 mg/mL, 2.8 μm	70430-100
	1 mL, 5 mg/mL, 1 μm	70431-1
	2 mL, 5 mg/mL, 1 μm	70431-2
	5 mL, 5 mg/mL, 1 μm	70431-5
	100 mL, 5 mg/mL, 1 μm	70431-100

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BeaverBeads™ DNA Select Isolation Kit

BeaverBeads™ DNA Select Isolation Kit uses superparamagnetic beads to select nucleic acid fragment fast and simply. The recovered nucleic acid fragment can be used for Next Generation Sequencing. This product is suitable for manual operation and high-throughput automated pipetting workstations.

Features

- High purity: the recovered nucleic acid fragment can be used for Next Generation Sequency
- Precise screening: Freely select the screening range of nucleic acid fragments and achieve precise screening
- High operating performance: the magnetic beads have strong magnetic response ability

Application Cases

BeaverBeads™ DNA Select Isolation Kit and Competitor's product share the same screening interval.

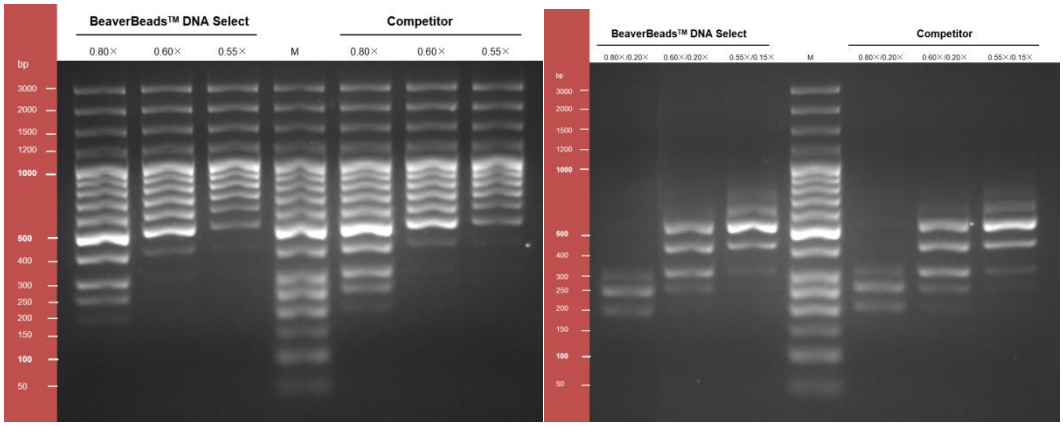

Fig.1 Gel electrophoresis images show the recovered DNA fragments after fragment screening

Product List

Product Name	Specification	Cat. No.
BeaverBeads™ DNA Select Isolation Kit	5 mL	70407-5
	60 mL	70407-60
	450 mL	70407-450

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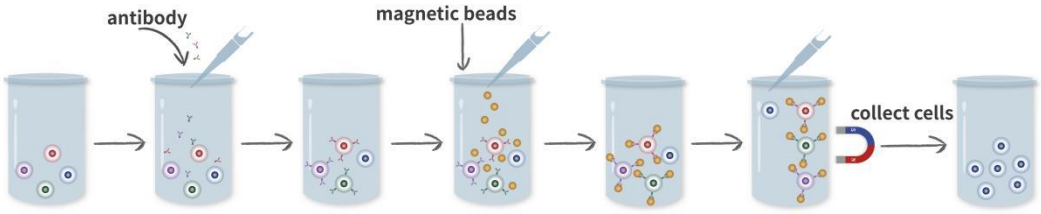
BeaverBeads™ Mouse/Human Cell Isolation Kit

The principle of magnetic beads cell isolation is to use immunomagnetic beads to label cells, the cells bound to the magnetic beads and without bound to the magnetic beads are separated by an external magnetic field..

BeaverBeads™ Cell Isolation Kit has two separation technologies, negative selection and positive selection, for both human and mouse samples, and is suitable for different application directions.

(I) Cell Isolation Kit Operation Flow Chart (Negative Selection)



Product Introduction

The negative selection kit uses nano magnetic beads to label and remove non-target cells, and then obtaining target cells that are not labeled by magnetic beads and antibodies.

Features

- Simple and fast: The target cells can be isolated in 15 mins
- No separation column required: The target cells can be quickly separated using a magnetic separator
- High purity: The purity of isolated cells can reach more than 95%
- High activity: after isolation, more than 99% of viable cells can be obtained, and the cells have good function

Product List

Product Name	Specification	Cat. No.
BeaverBeads™ Mouse CD4⁺ T Cell Isolation Kit (negative selection)	for 1×10^9 cells	70901-100
	for 5×10^8 cells	70901-50
	for 10^8 cells, trial	70901-10
BeaverBeads™ Mouse CD8⁺ T Cell Isolation Kit (negative selection)	for 1×10^9 cells	70902-100
	for 5×10^8 cells	70902-50
	for 10^8 cells, trial	70902-10
BeaverBeads™ Mouse CD3⁺ T Cell Isolation Kit (negative selection)	for 1×10^9 cells	70903-100
	for 5×10^8 cells	70903-50
	for 10^8 cells, trial	70903-10
BeaverBeads™ Human CD3⁺ T Cell Isolation Kit (negative selection)	for 1×10^9 cells	71003-100
	for 5×10^8 cells	71003-50
	for 1×10^9 cells	71003-10
BeaverBeads™ Mouse Neutrophil Cell Isolation Kit (negative selection)	for 5×10^8 cells	70907-50
	for 1×10^9 cells	70907-100

Application Cases

BEAVER BIOMEDICAL ENGINEERING CO., LTD.
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-BeaverBeads™ Human CD3+ T Cell Isolation Kit (negative selection)

Use BeaverBeads™ human CD3+ T Cell Isolation Kit to isolate CD3+ T cells from human PBMC, label them with PE anti-human CD3 antibody (clone number OKT3) and then analyze by flow cytometry.

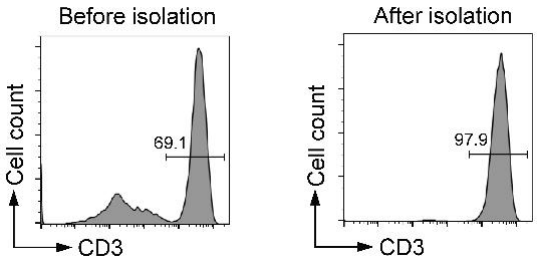

Fig.1 Flow cytometry analysis chart of human PBMC cells isolation by BeaverBeads™ Human CD3+ Cell Isoaltion Kit (negative selection)

Conclusion: The purity of CD3+ T cells before and after isolation was 69.1% and 97.9% respectively.

-BeaverBeads™ Mouse CD3+ T Cell Isolation Kit (negative selection)

Use BeaverBeads™ Mouse CD3+ T Cell Isolation Kit to isolate CD3+ T cells from mouse spleen cells, label them with FITC anti-mouse CD3 antibody (clone number 145-2C11), and then analyze by flow cytometry.

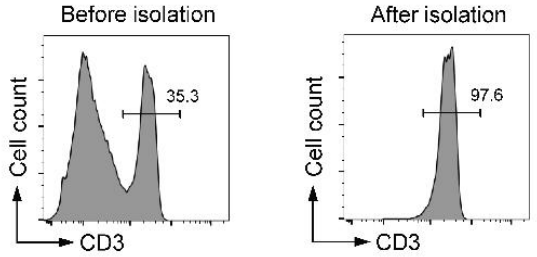

Fig.2 Flow cytometry analysis chart of mouse spleen cells isolation by BeaverBeads™ Mouse CD3+ Cell Isolation Kit (negative selection)

Conclusion: The purity of CD3+ T cells before and after isolation was 35.3% and 97.6% respectively.

-BeaverBeads™ Mouse CD4+ T Cell Isolation Kit (negative selection)

Use BeaverBeads™ Mouse CD4+ T Cell Isolation Kit to isolate CD4+ T cells from mouse spleen cells, label them with FITC anti-mouse CD4 antibody (clone number GK1.5) and then analyze by flow cytometry.

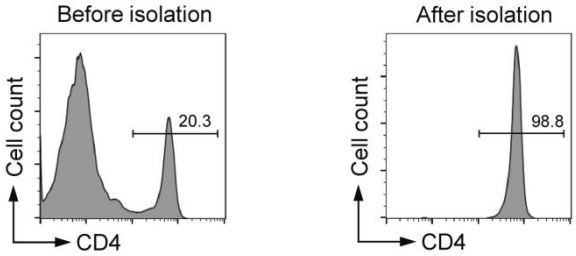

Fig.3 Flow cytometry analysis of mouse spleen cells isolation by BeaverBeads™ Mouse CD4+ Cell Isolation Kit (negative selection)

Conclusion: The purity of CD4+ T cells before and after isolation was 20.3% and 98.8% respectively.

-BeaverBeads™ Mouse CD8+ T Cell Isolation Kit (negative selection)

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Use BeaverBeads™ Mouse CD8+ T Cell Isolation Kit to isolate CD8+ T cells from mouse spleen cells, label them with FITC anti-mouse CD8 antibody (clone number 53-6.7), and then analyze by flow cytometry.

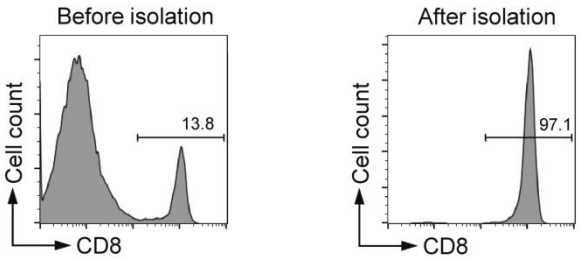
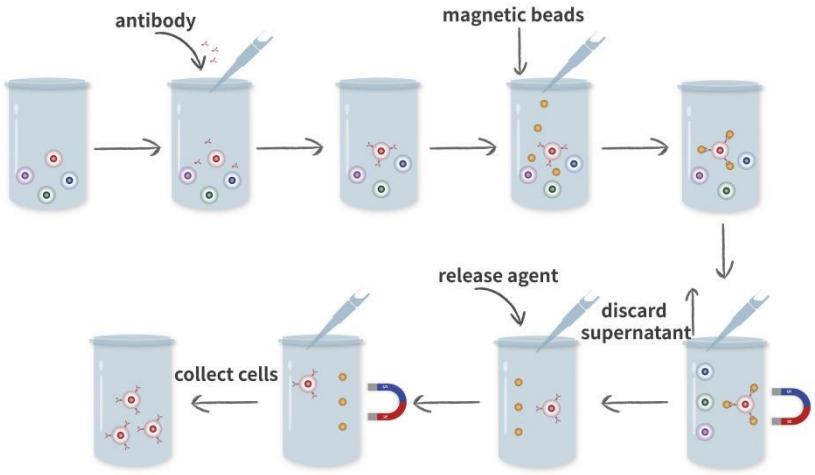


Fig.4 Flow cytometry analysis chart of mouse spleen cells isolation by BeaverBeads™ Mouse CD8+ Cell Isolation Kit (negative selection)

Conclusion: The purity of CD8+ T cells before and after isolation was 13.8% and 97.1% respectively.

(II) Cell Isolation Kit Operation Flow Chart (Positive Selection)



Product Introduction

The positive selection kit uses nano magnetic beads to label and enrich target cells, and then uses a release agent to dissociate the magnetic beads from the cell surface to obtain target cells without magnetic bead labeling.

Features

- Purity reaches more than 95%
- Wide sample applicability, target cells can be captured directly
- Magnetic bead release technology, cells without magnetic beads labeling

Product List

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Product Name	Specification	Cat. No.
BeaverBeads™ Mouse CD4+ Cell Isolation Kit (positive selection)	for 1×10^9 cells	70904-100
	for 1×10^8 cells	70904-10
BeaverBeads™ Mouse CD8+ Cell Isolation Kit (positive selection)	for 1×10^9 cells	70905-100
	for 1×10^8 cells	70905-10
BeaverBeads™ Human CD34+ Cell Enrichment Kit (positive selection)	for 1×10^8 cells, trial	70906-10
	for 1×10^9 cells	70906-100

Application Cases

-BeaverBeads™ Mouse CD4+ Cell Isolation Kit (positive selection)

Use the BeaverBeads™ Mouse CD4+ Cell Isolation Kit (positive selection) to isolate CD4+ cells from spleen cells of BALB/C mice, label them with PE anti-mouse CD4 antibody (clone number RM4-4), and then analyze by flow cytometry.

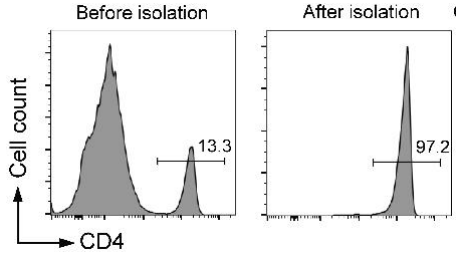

Fig.5 Flow cytometry analysis chart of mouse spleen cells isolation by BeaverBeads™ Mouse CD4+ Cell Isolation Kit (positive selection)

Conclusion: The purity of CD4+ cells before and after isolation was 13.3% and 97.2% respectively.

-BeaverBeads™ Mouse CD8+ Cell Isolation Kit (positive selection)

Use BeaverBeads™ Mouse CD8+ Cell Isolation Kit (positive selection) to isolate CD8+ cells from mouse spleen cells of C57BL/6, label them with FITC anti-mouse CD8 antibody (clone number 53-5.8), and then analyze by flow cytometry.

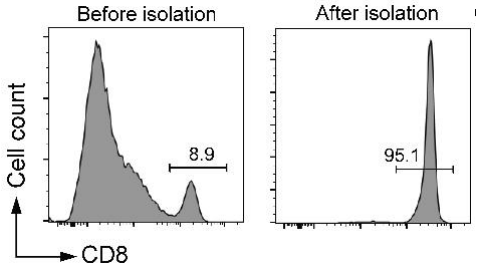

Fig.6 Flow cytometry analysis chart of mouse spleen cells isolation by BeaverBeads™ Mouse CD8+ Cell Isolation Kit (positive selection)

Conclusion: The purity of CD8+ cells before and after isolation was 8.9% and 95.1% respectively.

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BeaverBeads™ PCR Purification Kit

BeaverBeads™ PCR Purification Kit uses superparamagnetic beads to recover DNA from PCR products conveniently and rapidly. It removes impurities such as primer dimers, dNTP, inorganic salts and protein effectively. The entire process is simple and fast. Extracted products can be used for digestion, PCR amplification, detection and other follow-up experiments.

Features

- It is applied for purification and recover 100 bp~50 kb DNA fragment
- Recovery rate can reach 80%
- DNA purity is high. A260/A280 is 1.7-2.0, A260/A230 is 1.9-2.3
- It is not only suitable for manually extraction for a small amount of samples, also for high-throughput automated workstations

Application Cases

1. DNA fragment binding range

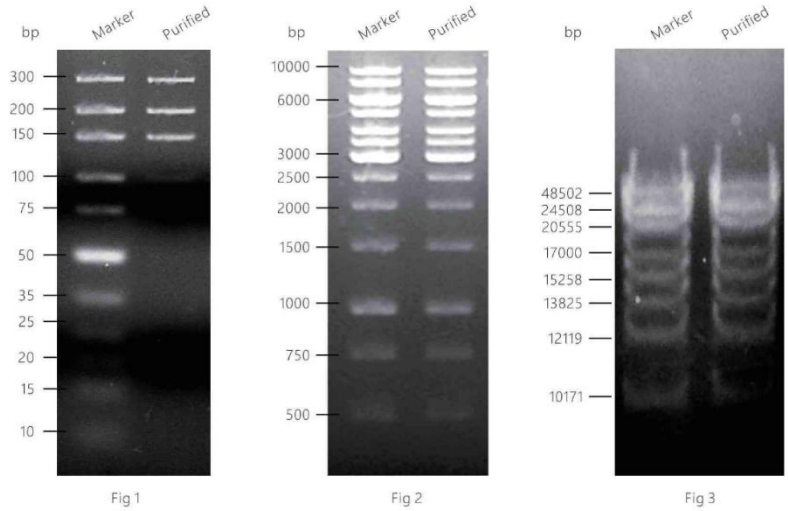

Fig.1. 10-300bp DNA fragments recovery [Thermo Scientific GeneRuler Ultra Low Range DNA Ladder (# SM1212)]

Fig.2. 500-10000bp DNA fragments recovery [Thermo Scientific GeneRuler 1kb DNA Ladder (# SM0311)]

Fig.3. 10171-48502bp DNA fragments recovery [Thermo Scientific GeneRuler High Range DNA Ladder (# SM1351)]

Marker: DNA ladder, before purification

Purified: DNA ladder purified by BeaverBeads™ PCR Purification Kit

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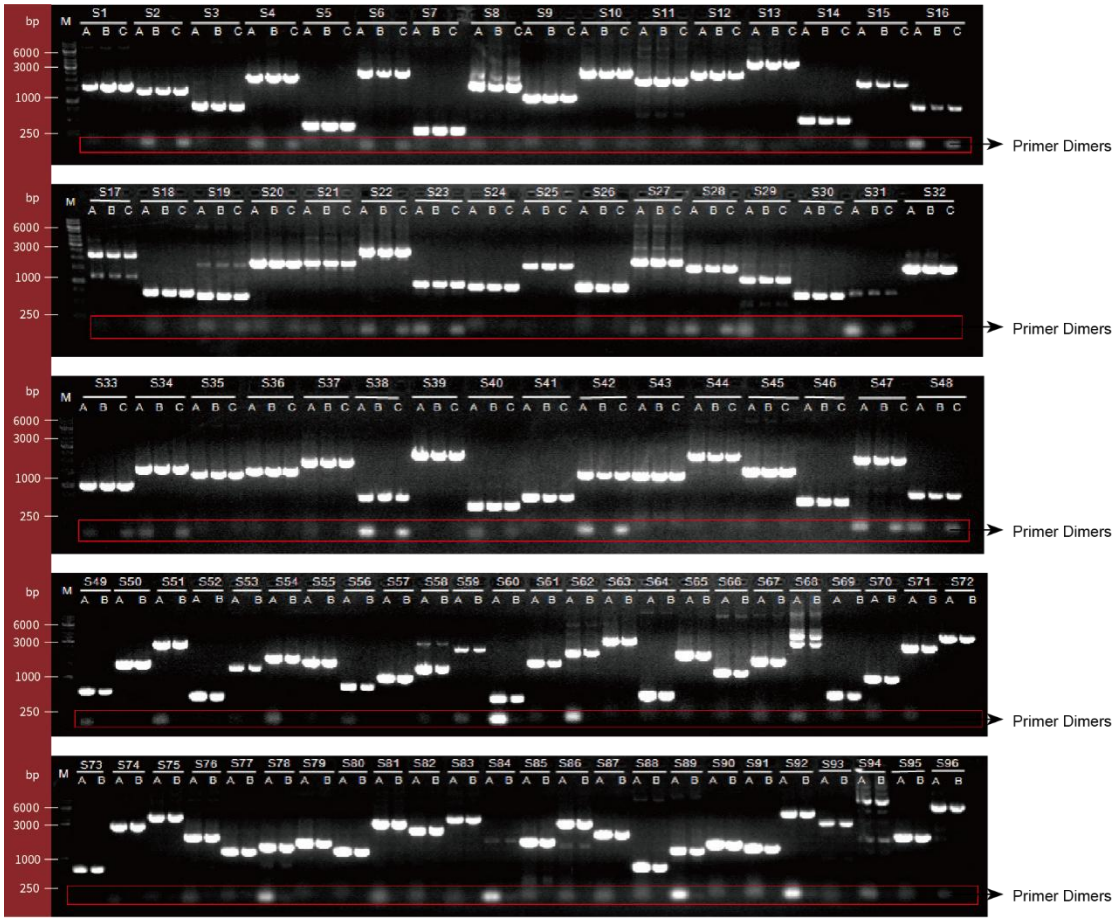
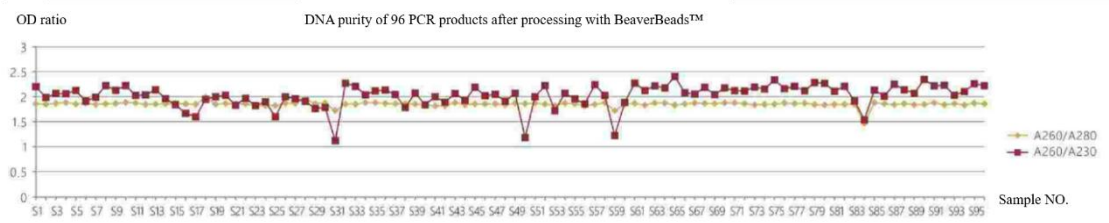
2. 96 well PCR plate high throughput sequencing





As illustrated as above, this product recycles target DNA as efficient as competing products. On the other hand, this product eliminates primer dimers more than that of competitors. Target DNA recovered from both kits are of high purity: A260/A280 1.8-1.9, A260/A230 1.9-2.3.

Product List

Product Name	Specification	Cat. No.
BeaverBeads™ PCR Purification Kit	20 rxns	70415-20
	100 rxns	70415-100

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BeaverBeads™ for Sample Processing

BeaverBeads™ for mSPE

BeaverBeads™ mSPE magnetic beads are made of polymer adsorbent materials coated in the outer layer of magnetic microspheres, such as HLB and WCX. While capturing and enriching trace amounts of target analytes in the sample matrix, it can overcome the shortage of clogging and complicated operation of traditional solid-phase extraction cartridges. It makes the separation and concentration process simple, fast and efficient. After the extraction step is completed, only filter step is needed and then the sample can be used for LC/LC-MS analysis.

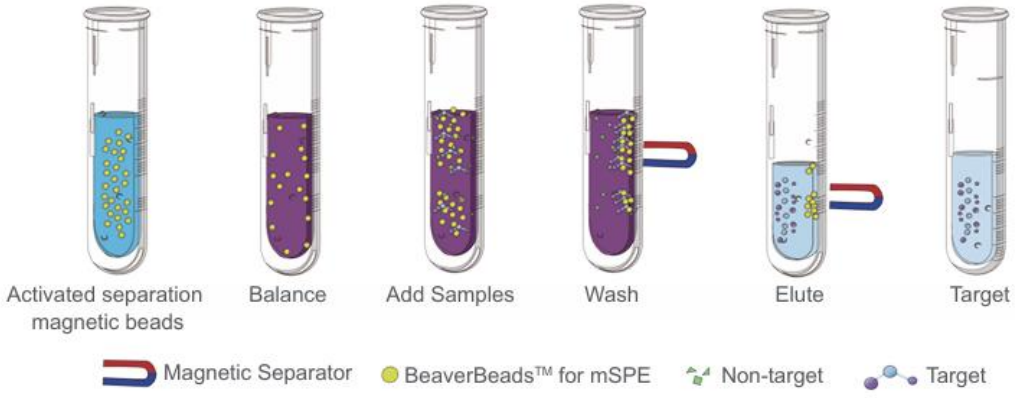
Features

- Automated, high-throughput
- Higher purity
- High efficiency

Application Fields

- Food and cosmetics physical and chemical safety analysis
- Clinical in vitro small molecule marker research
- Forensic Toxicology Analysis
- Environment Analysis

BeaverBeads™ for mSPE are used in sample pretreatment for liquid chromatography-tandem mass spectrometry analysis



Product List

Product Name	Specification	Cat. No.
BeaverBeads™ for mSPE (WCX)	1 g/bottle	71111-1
BeaverBeads™ for mSPE (WAX)	1 g/bottle	71112-1
BeaverBeads™ for mSPE (HLB)	1 g/bottle	71113-1

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BeaverBeads™ Mycotoxin Decontamination Kit

BeaverBeads™ Mycotoxin Decontamination Kit (magnetic bead method) is a kit for rapid and high-throughput purification of samples when testing mycotoxins in grain, oil, food, feed, dairy, traditional Chinese medicine and other samples. This type of product uses magnetic beads modified with antibodies on the surface to specifically adsorb mycotoxins in sample extracts. It can be used with a fully automatic purification instrument to complete the entire process of washing impurities and purifying and elution of target substances.

Features

- Efficient and fast: single sample processing time is less than 30 mins
- High throughput: different models can process 1-10 or 1-24 samples at the same time
- Automation: one-click start, no manual operation required, convenient and fast, reducing human errors

Product List

Product Name	Specification	Cat. No.
BeaverBeads™ Aflatoxin Purification Kit (Magnetic Bead Method)	20 pcs/box, 10 mL, feed sample	71101-20
BeaverBeads™ Zearalenone Purification Kit (Magnetic Bead Method)	20 pcs/box, 10 mL, feed sample	71102-20
BeaverBeads™ Deoxynivalenol Purification Kit (Magnetic Bead Method)	20 pcs/box, 10 mL, feed sample	71103-20
BeaverBeads™ Ochratoxin A Purification Kit (Magnetic Bead Method)	20 pcs/box, 10 mL, feed sample	71104-20
BeaverBeads™ Fumonisin Purification Kit (Magnetic Bead Method)	20 pcs/box, 10 mL, feed sample	71105-20
BeaverBeads™ Aflatoxin M1 Purification Kit (Magnetic Bead Method)	20 pcs/box, 10 mL, feed sample	71106-20

BEAVER BIOMEDICAL ENGINEERING CO., LTD.
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BeaverDevice™ Magnetic Separator Stand

Cat. No. 60201

Magnetic Separator Stand 2/15

Used for normal 1.5 mL EP tube, 2 mL EP tube and 15 mL centrifuge tube.

Cat. No. 60203

Magnetic Separator Stand 50

Used for 50 mL centrifuge tubes.

Cat. No. 60302

Magnetic Separator Stand 96I

Used for regular 96-well micro-plate, 96-well PCR plate, PCR tubes etc.

Cat. No. 60303

Magnetic Separator Stand 96-II

Used for regular 96-well microplate, 96-well PCR plate, PCR tubes etc.

Cat. No. 60304

Magnetic Separator Stand 96-III

Used for 96-well deep well plate.

Cat. No. 60204

Magnetic Rod

Used for 200 mL-2 L regular bottles (nonmetal).

Cat. No. 60401

Magnetic Ring

Used for 250 mL reagent bottle.

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