



BEAVER Labware Consumables Catalog



BEAVER BIOMEDICAL ENGINEERING CO., LTD.

ABOUT BEAVER

BEAVER biomedical is a leading company in nano-biomaterials surface technology, located in Suzhou Industrial Park, Suzhou, with an area of 6000 m² 100,000GMP standard clean room. The present products are magnetic beads, related reagents, high quality laboratory consumables and laboratory equipments, which have been certified by ISO 9001 and 13485 and CE quality management system. Since 2012, BEAVER has gained about 10 China municipal and provincial awards and high-tech enterprise qualifications.

BEAVER has cooperated with German PTB national measurement bureau on international standards project ISO 19807-2 and also supplies the products for more than 20 countries, such as America, Canada, Brazil, France, Italy, Australia, Korea, Thailand, India etc...

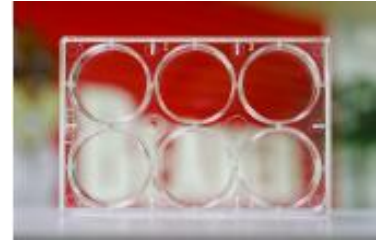
CONTENTS

Tissue Culture Treatment Plate.....	1
TC-Treated Cell Culture Dish	2
TC-Treated Cell Culture Flask.....	3
Suspension Cell Culture Surface.....	4
PDL/PLL Coated Microtiter Plate.....	6
Enzyme Linked Immunosorbent Assay (ELISA) Plate	7
Streptavidin Coated Plate	8
Pyrogen-Free Microtiter Plate/Strips.....	10
Serological Pipets	10
Conical Centrifuge Tubes.....	11
500mL Centrifuge Bottle/Stand	11
Deep Well Plates & Tip Comb	12

* Get another catalog of Beaver's Magnetic Beads Technology.

Tissue Culture Treatment Plate

Tissue Culture Treatment (TCT) surface cell culture plates are routine tools in traditional two-dimensional planar cell culture laboratories and the basis for various cell culture plates with special functional surfaces developed by Beaver. It is widely used in life science research, cancer research, virus detection and diagnosis, genetic engineering and vaccine development and production.

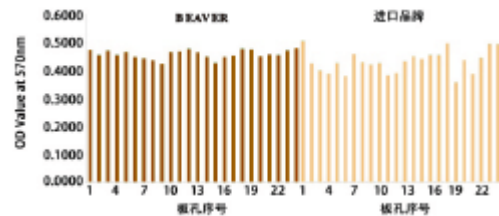


Product Advantages

1. Stable quality, small lot difference, small well difference

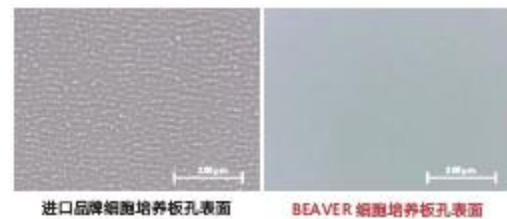
BEAVER cell culture consumables are produced in GMP-grade workshops, using imported German direct pressure injection molding machines, high-quality mold equipment. All the consumables are strictly followed ISO international quality system standards for production and quality control, ensuring the stability of each batches.

Right figure: Comparison of cell viability of rat mesenchymal stem cells (SD MSCs) grown on different cell culture plates for 3 days. Compared with other products, BEAVER products have uniform cell surface activity and small differences between the plate wells, which greatly reduces the experimental system error and improves the accuracy and reliability of the experiment.



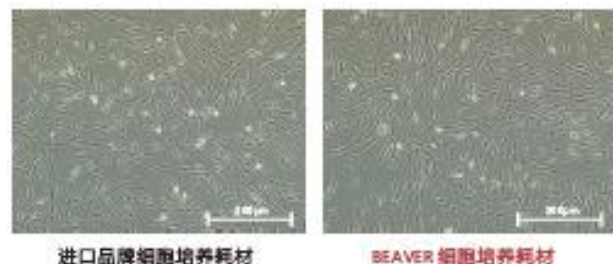
2. Mirror-like cell culture surface, no visible scratches and blemishes

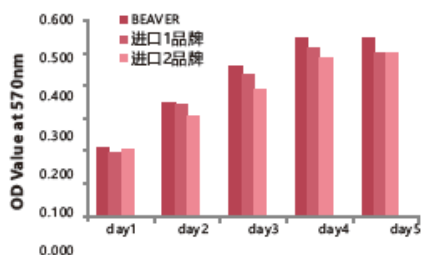
The quality of the mold is one of the important factors affecting the quality of the product. BEAVER cell culture product are produced by the pure mirror mold which is made of special steel to ensure the continuous and stable production of high quality pure mirror consumable products. Compared with other international brands, BEAVER products provide a clearer and purer background for cell observation and photo shooting, which provides a solid guarantee for our customers with high quality cell culture data.



3. Better surface stability and stronger cell affinity

BEAVER cell culture consumables use imported surface treatment equipment from Belgium. After long-term research and exploration, the best surface treatment conditions for cell adherent growth are screened out. BEAVER cell culture consumables have higher cell adherence rate and cell survival rate than other international brands, and are more suitable for cell adherent growth. As shown in the right figure, fetal bone marrow mesenchymal stem cells (MSCs) were compared on different cell culture plates. It shows that BEAVER cell culture consumables has higher density of MSCs.



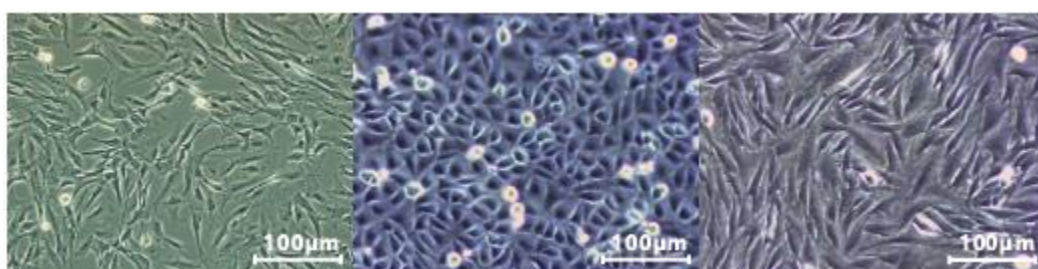


Left figure: Comparison of cell viability of fetal bone marrow mesenchymal stem cells (MSCs) on the plates of different brand cell culture consumables. It shows that the BEAVER cell culture surface provides cells with better adherent support, and the cells demonstrates better cell viability and proliferation rate.

4. User-friendly design, easy to use.

BEAVER cell culture consumables adopts humanized anti-skid design for side wall, to make it easy to hold; the bottom is designed with arc-bump and anti-noise. The product is individually packaged with tweed paper and blister box, sterilized by gamma ray, and indicated by a radiation label which shows sufficient radiation to meet sterilization requirements.

Applications



Left: Growth situation of rat bone marrow mesenchymal stem cells (SDMSCs) on BEAVER cell culture plate.

Middle: Growth situation of human umbilical vein endothelial cells (HUVEC) on BEAVER cell culture plate.

Right: Growth situation of human aortic vascular smooth muscle cells (T/GHA-VSMC) on BEAVER cell culture plate.

Cat. Number	Description	Package
40106	6 Well Plate, Standard Packing	1/pk, 50pk /Case
40112	12 Well Plate, Standard Packing	1/pk, 50 pk/Case
40124	24 Well Plate, Standard Packing	1/pk, 50 pk/Case
40148	48 Well Plate, Standard Packing	1/pk, 50 pk/Case
40196	96 Well Plate, Standard Packing	1/pk, 65 pk/Case

TC-Treated Cell Culture Petri Dish

Cat. Number	Description	Package
43703	35mm TCT Dish	10/pk, 50 pk/Case
43702	60mm TCT Dish	10/pk, 50 pk/Case
43701	100mm TCT Dish	10/pk, 50 pk/Case

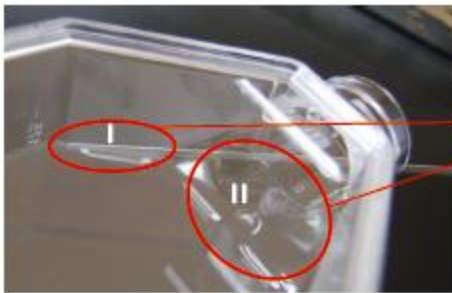
TC-Treated Cell Culture Flask

This product adopts unique structural design (patent number: ZL201320051575.7), which avoids dead angles in the cell culture bottle, so that the culture medium or cell suspension can be poured smoothly without causing cell loss or cell pollution. In addition, the double-threaded design of the asymmetric zigzag cross section of the round tubular bottle mouth makes the cap rotation angle smaller, the self-locking property better, and the tightening and loosening operation more convenient; Moreover, it makes the cap stressed evenly, and have a better sealing performance, which greatly reduces the chance of cell contamination.



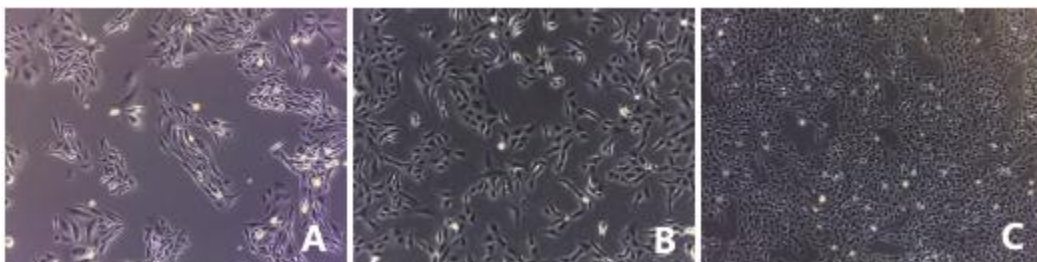
Product advantages

1. Strong cell adhesion, higher cell adherence rate and cell survival rate;
2. The culture surface is smooth and free from scratches or wavy lines;
3. The liquid is poured smoothly, without dead angles;
4. The cap is self-locking, which makes the cap more tight.



Free from scratches or wavy lines
Patent number: ZL201320051575.7

Test Data



A. CHO Cell Culture (100x, 24hr.)

B. Vero Cell Culture (100x, 24hr.)

C. C6 Cell Culture (50x, 48hr.)

Cat. Number	Description	Specification	Package
40125	25 cm ² Flask	Breathable Cap	12/pk, 25pk/Case
40179	25 cm ² Flask	Sealing Cap	12/pk, 25pk/Case
40175	75 cm ² Flask	Breathable Cap	5/pk, 18pk/Case
40180	75 cm ² Flask	Sealing Cap	5/pk, 18pk/Case
40186	175 cm ² Flask	Breathable Cap	5/pk, 10pk/Case
40185	175 cm ² Flask	Sealing Cap	5/pk, 10pk/Case

Suspension Cell Culture Surface Flask

This product series uses Beaver developed bio-nano surface technology to improve functional performance of the conventional cell culture surface by using the natural active peptides, sugars and other polymer materials, so that the cell culture plate has ultra-low adhesion of cells. The ability to achieve suspension culture of cells under serum culture system. It can be used for suspension culture of adherent cells and semi-adherent cells, spheroid culture of tumor cells, and embryoid body formation experiments.



Product advantages

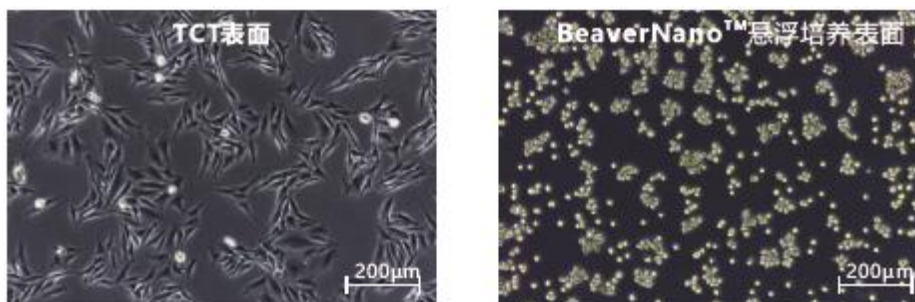
1. Easy to use, ready to use, no need to pre-process the product
2. Stable surface properties and long shelf life at room temperature
3. Stable product quality and no difference between batches
4. Non-pyrogenic, sterile packaging

Suitable for cells

Applicable to Vero, CHO, Rat C6, HEK293 and other cells, glial cells, human mesenchymal stem cells (hMSC).

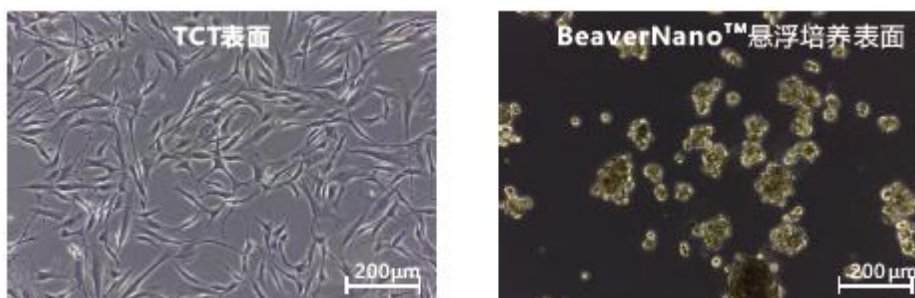
Application

1. Suspension culture of Chinese hamster ovary cells (CHO)

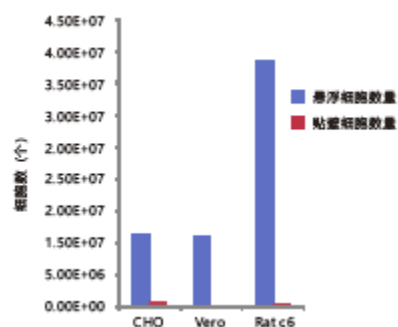


CHO growth situation comparison between TCT surface & Beaver suspension culture surface (72h cultivate, 100x microphotograph)

2. Suspension culture of human bone marrow mesenchymal stem cells (hMSC)



3. Comparison of adherence reduction rate of different cells on suspension culture surface

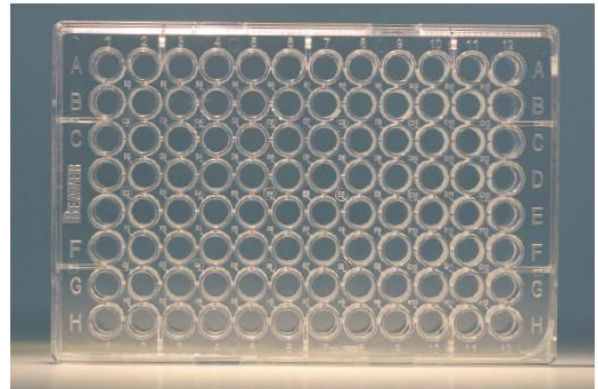


For CHO, Vero, and Rat C6 cells, the number of suspended cells and adherent cells was counted by a hemocytometer. From the statistical data, the adherence reduction rate of the cells on the suspension culture surface was 95.87%, 98.79%, 99.48%, respectively. And the cells showed a state of suspension growth.

Cat. Number	Description	Package
40406	Suspension Cell Culture 6-well Plate	1/pk, 50pk/Case
40424	Suspension Cell Culture 24-well Plate	1/pk, 50pk/Case
40496	Suspension Cell Culture 96-well Plate	1/pk, 60pk/Case
40425	Suspension Cell Culture Flask 25 cm ²	5/pk, 25pk/Case
40475	Suspension Cell Culture Flask 75 cm ²	5/pk, 9pk/Case

PDL/PLL Coated Microtiter Plate

This product uses a self-developed biomaterial surface technology to modify 96 wells plate surface, and then pre-coated with high-density poly-L-lysine (PLL) to demonstrate better cell-adhering properties. It is suitable for high-throughput cell culture, detection and screening.



Product advantages

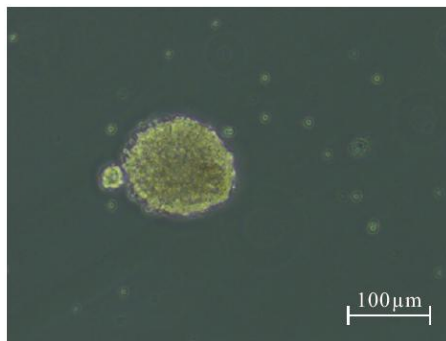
1. Pre-coated PLL, ready to use, no additional pre-processing
2. Store for 6 month at 2~8°C
3. Higher stability, no difference between the wells, low difference between batches

Suitable for cells

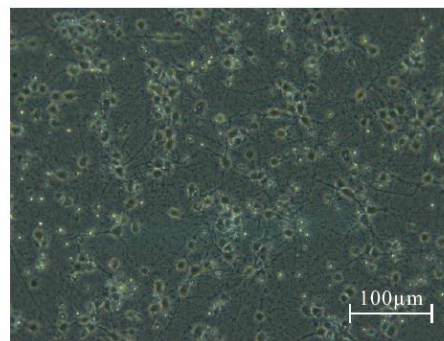
Suitable for culturing most adherent cells and difficult to adherent cells.

Case Studies

1. Culture of rat hippocampal neurons on different culture plates



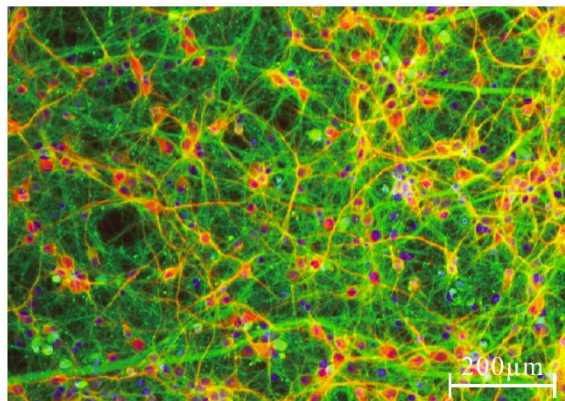
未被TCT培养板表面



PLL包被96孔培养板表面

It can be seen from the above figure that the primary rat hippocampal neuron cells can be well-adhered to the surface of the coated TCT culture plate after being cultured for 30 hours, comparing to the cells cultured on the surface of the uncoated PLL plate, and they form intertwined Neuron network.

2. Immunofluorescence effect of rat hippocampal neurons cultured on PLL coated 96-well plate surface



As shown in the figure: Green means β III Tubulin, Red means MAP2, Blue means cell nucleus

Enzyme Linked Immunosorbent Assay (ELISA) Plate

BEAVER ELISA plates are GMP-grade dust-free workshops, using imported German direct pressure injection molding machines, high-quality mold equipment and automated production processes. All the consumables are strictly followed ISO international quality system standards for production and quality control, ensuring the stability of each batches.



The product adopts a optimized surface treatment process, which has effectively improved the protein adsorption capacity in the high and medium binding enzyme plate, and improved the sensitivity to protein adsorption detection, and can be widely applied to various types of ELISA detection.

Product advantages

1. High capacity of protein adsorption

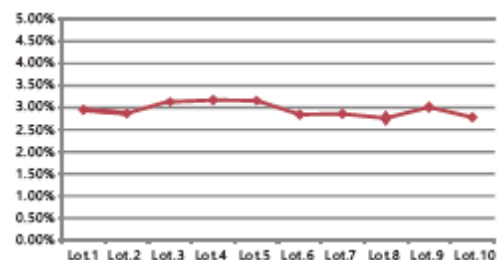
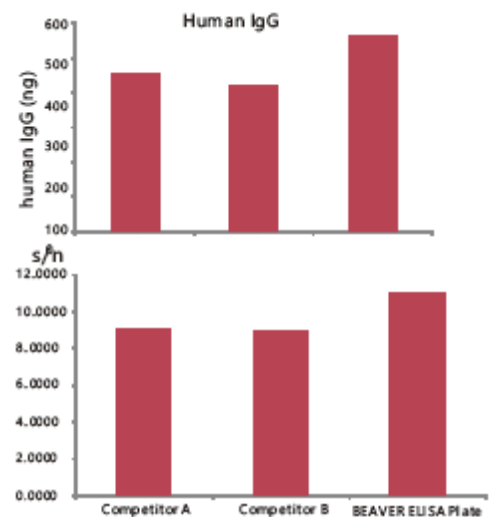
As shown on the right, the binding ability of Beaver high binding plate to Human IgG can reach nearly 600 ng/cm², which is significantly higher than other brands' products.

2. Higher signal to noise ratio

As shown in the figure on the right, the signal-to-noise ratio comparison among the different brand products combined with the of Human IgG showed that the Beaver plate has a significantly higher signal-to-noise ratio, which provides researchers with more reliable and effective experimental data.

3. Stable performance between batches

As shown in the right figure, the inter-batch ELISA test showed that the coefficient variation (CV) between the ELISA plates was around 3.0%, which was significantly lower than the national quality control standard for 5.0% clinical immune response.



Cat. Number	Product	Description	IgG Binding Capacity	Package
40301	High Binding ELISA Plate	Clear Flat Bottom, 96-well Plate	~600 ng/cm ²	5/pk, 32pk/Case
40302		Clear Flat Bottom, 96-well (12 x 8 well strips) Plate	~600 ng/cm ²	5/pk, 32pk/Case

Streptavidin Coated Plate

This product utilizes the Beaver surface technology to make Streptavidin (SA) coated into the micro well of the plate with high-density and orientation. The coating density on the surface of the plate is as high as 9.3×10^{13} molecules/cm² and SA is coated evenly and face in the same direction. The biotin has a maximum binding capacity of 5 pmol/well and a Biotin-labeled antibody (rabbit IgG) with a detection resolution of 0.5 ng/well.



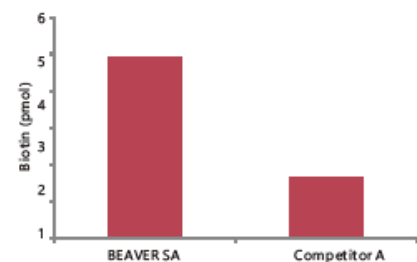
The products is suitable for ELISA and nucleic acid and protein hybridization.

Legend	Application Direction	Details
	Immunoassay, separation of protein, cell sorting, etc	BeaverBeads™ Streptavidin can specifically bind biotinylated antibody or antigen, as an immune detection tool, ELISA solid-phase reaction carrier, or used for sorting cells
	Isolated nucleic acid, Preparation of Nucleic acid probes	BeaverBeads™ Streptavidin can specifically combine biological nucleic acid probe in the hybridization experiments that widely used in DNA, RNA.
	DNA-Study on protein interaction protein	BeaverBeads™ Streptavidin specifically targets with biotinylated DNA or RNA fragments can be used to study the interaction between proteins and nucleic acids.
Note:		

Product advantages

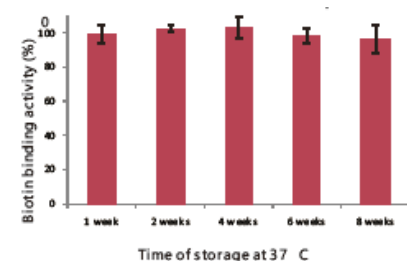
1. Higher biotin binding capacity

As shown on the right, the biotin binding activity of streptavidin coated (SA) microplates is as high as 5 pmol/well, which is 2 to 3 times higher than similar products on the market.



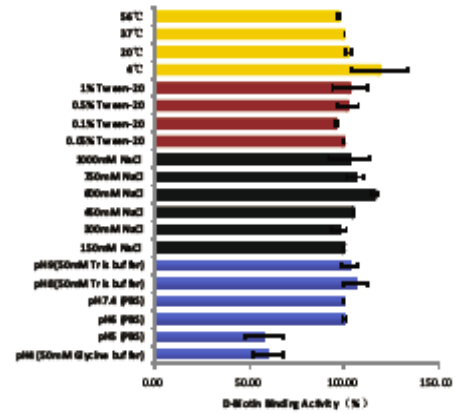
2. Great stability after Long-term storage

As shown on the right, the streptavidin coated (SA) microplate has very good stability and can be stored stably at 37 ° C for more than 8 weeks. The product is vacuum packed in foil paper and can be stored stably for 2 years at 2~8°C.



3. Maintain good activity under various reaction condition

The experimental results on the right show that the streptavidin-coated (SA Matrix) microplate can maintain high Biotin binding activity under a wide range of pH, temperature, ionic strength and surfactant. It provides more and more flexible experimental conditions for the researchers.



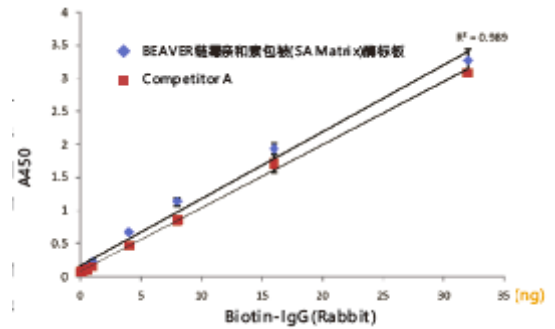
4. Small batch differences and CV < 5%

Biotin-labeled rabbit IgG was parallel detected by ELISA using a streptavidin-coated (SA Matrix) microplate, and HRP-labeled goat-anti-rabbit IgG was used as a detection antibody, and TMB coloration was performed. The coefficient of variation (CV) is less than 5.0%, which is in line with the national quality control standards for the clinical standard for immunological reactions.

Application

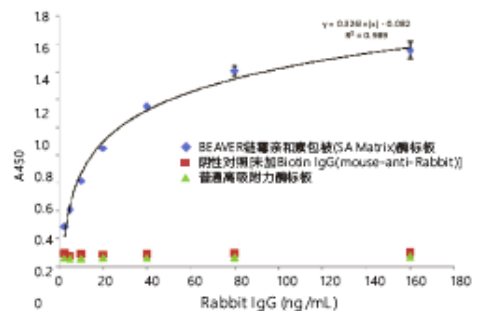
➤ ELISA indirect detection of Biotin-IgG (Rabbit)

Using a streptavidin coated (SA Matrix) microplate bind with different concentration gradients of Biotin-IgG (Rabbit), then using HRP-IgG (Goat-anti-Rabbit) to color detect Biotin-IgG (Rabbit) on a microplate. As shown on the right: Streptavidin coated (SA Matrix) microplates can successfully detect Biotin-IgG (Rabbit) as low as 0.5 ng, with a detectable concentration range from 5 to 350 ng/mL. The linear relationship between the data points is good ($R^2 > 0.98$), and the A450 background value is lower than 0.08. In the case of equal amounts of Biotin-IgG (Rabbit), the color intensity of the BeverNano™ streptavidin coated (SA Matrix) microplate was slightly higher than that of the similar products on the market.



➤ Double sandwich ELISA to detect IgG (Rabbit)

Add a 0.1 μg/well Biotin-IgG (Mouse-anti-Rabbit) to a streptavidin-coated (SA Matrix) microplate to fix it on the inner surface of the well, then add a gradient of IgG (Rabbit) to capture, and finally color detect the captured IgG (Rabbit) using HRP IgG (Goat-anti-Rabbit). As shown in the figure on the right, the ELISA system can successfully detect IgG (Rabbit) at a concentration as low as 2.5 ng/ml. The correlation between each data point is good ($R^2 > 0.98$), and the A450 background level is low. The background of the experimental group was lower than 0.12, and the background of the negative control group [without Biotin-IgG (Mouse-anti-Rabbit)] was less than 0.1.

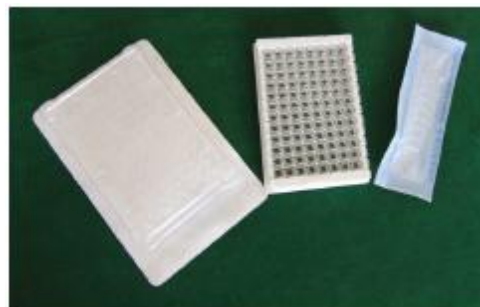


Cat. Number	Product	Max. Ligand Binding Capacity	Resolution	Package
22351	Streptavidin Coated 96-Well Plate	5 pmol Biotin per well	0.5ng Biotin-IgG (Rabbit)	1/pk, 5pk/Case

Pyrogen-Free Microtiter Plate/Strips

Product Features

1. Pyrogenic free, the endotoxin content is less than 0.015 EU/ml
2. Low background value, the same plate background CV value is less than 3%
3. The whole tube or individually package



Cat. Number	Product	Specification	Package
40346	Pyrogenic free tube	1.5 mL	10/pk, 300pk/Case
40341	Pyrogenic free plate	96-well, Non-detachable	1/pk, 65pk/Case
40345	Pyrogenic free plate	96-well, removable	1/pk, 65pk/Case
40343	Pyrogenic free microtiter Strips	—	1/pk, 12 Strips /plate

Serological Pipets

Features:

1. Highly transparent, polystyrene material
2. Individually packaged;
3. Volumetric tolerance: $\pm 2\%$;
4. Gamma radiation sterilized;
5. Pyrogen-free, DNase/RNase-free;
6. Apply to sterilized liquid handling applications in clinical and R&D settings;

Cat. Number	Size	Package
43401	1mL, once molding	300/pk, 6pk/Case
43402	2mL, once molding	300/pk, 6pk/Case
43403	5mL, once molding	200/pk, 6pk/Case
43404	10mL, once molding	200/pk, 6pk/Case
43003	25mL, two molding	200/pk, 4pk/Case
43004	50mL, two molding	100/pk, 6pk/Case

Conical Centrifuge Tubes

Product Features

1. Clear, medical polypropylene (PP), sealed cap;
2. No pyrogen, no DNase/RNase;
3. High accuracy of graduation (error range $\pm 0.2\%$);
4. Sterilization by Gamma ray radiation;
5. Can withstand high temperature and high pressure sterilization (121 ° C, 20 min);
6. Can store at ultra-low temperature (-86 ° C refrigerator) for long-term storage;



It is suitable for collection, packaging and long-term storage of various biological samples such as bacteria, cells, proteins and nucleic acids.

Cat. Number	Size	Color	Specification	Package
43008	15mL	Clear	Sterilization, without holder, 8000g	25/pk, 20pk/Case
43302	15mL	Clear	Sterilization, with holder, 8000g	50/pk, 10pk/Case
43009	50mL	Clear	sterilization, without holder, 9500g	25/pk, 20pk/Case
43304	50mL	Clear	sterilization, with holder, 9500g	25/pk, 20pk/Case

500mL Centrifuge Bottle/Stand

Made of material: polypropylene (PP)

Sealed tube cap, sterile, pyrogen-free packaging



Cat. Number	Product	Color	Package
40500	500mL centrifuge bottle	Clear	5/pk, 8pk/Case
40501	centrifuge bottle stand	Black	1/Box

Deep Well Plates & Tip Comb

Application

Suitable for collection, packaging, reaction, culture and long-term storage of various biological samples such as bacteria, cells, proteins and nucleic acids.



Product Feature

1. Clear, medical polypropylene (PP), no lid;
2. Non-sterile
3. Ultra-low heavy metal content, good chemical stability and good antistatic performance;
4. Can withstand high temperature and high pressure sterilization (121 ° C, 20 min);
5. Can store at ultra-low temperature (-86 ° C refrigerator) for long-term storage

Cat. Number	Product	Package
43019	24 deep-well plates, 15 mL, V-type Bottom, square hole	6/pk, 12pk/Case
43020	24 Deep-Well plates with tip combs	12/pk, 4pk/Case
43030	96 deep-well plates for KingFisher™ Flex 96, 2.2 mL, V-type Bottom, Square Hole	5/pk, 10pk/Case
43031	96 deep-well tip combs for KingFisher™ Flex 96	10/pk, 5pk/Case
43037	96 deep-well Plates for BeaverDevice™ Rosetta 32, 2 mL, Round Bottom, Square Hole	24/pk, 4pk/Case
43038	8 deep-well tip combs for BeaverDevice™ Rosetta 32	2/pk, 50pk/Case
43021	48 deep-well plates, 4.6 mL, U-type Bottom, Square Hole	24/pk, 4pk/Case
43011	96 deep-well Plates for Pipettor, 2.2 mL, U-type Bottom, Round Hole, suitable for Pipette workstation	24/pk, 4pk/Case



BEAVER NEVER STOP!



BEAVER Biomedical Engineering Co., Ltd.

Add : 1 Huayuan Rd., Bldg. B4, SIP SuZhou,215123, China,

Web : www.beaverbio.com

Tel : +86 0512-85187639

Mail : sales@beaverbio.com

Fax : +86 0512-85187635