



(For scientific research use only, not for clinical diagnosis!)

Bovine medroxyprogesterone acetate

(DMPA) ELISA kit instruction

manual Specifications: 48T/96T

**Please read the instructions carefully before use. If you have any questions,
please contact us through the following methods: Official hotline: 025-5229-
8998 Sales department phone: 13914481711 Technical phone: 15950492658
Contact email: 3224949330@qq.com Company website:
www.byabscience.cn For specific shelf life, please see the reagents Box
packaging label. Please use the kit within the shelf life.**

When contacting us, please provide the product number and production date (see box label) so that we can serve you more efficiently.

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Kit performance Detection range: 1.25

ng/ml- 40 ng/ml.

Sensitivity: The lowest detectable dose is less than 0.1 ng/ml.

Precision: intra-batch variation coefficient CV% is less than 10%; inter-batch variation coefficient CV% is less than 15%.

Recovery rate: The recovery rate is between 85%-115%.

Specificity: This kit recognizes natural and recombinant bovine medroxyprogesterone acetate (DMPA) and has no crossover with structural analogs.

Stability: Stored at 2°C-8°C, validity period is 6 months.

Purpose: Used to detect the concentration of bovine medroxyprogesterone acetate (DMPA) in samples such as serum, plasma, cell culture supernatant and tissue. **Shelf life:** Stored at 2°C-8°C, valid for 6 months.

Experimental principle

The enzyme-linked immunosorbent competitive assay was used to detect the content of medroxyprogesterone acetate (DMPA) in the samples. First, coat the microplate with goat anti-rabbit to make a solid-phase secondary antibody. Then add the sample to be tested, horseradish peroxidase-labeled medroxyprogesterone acetate (DMPA) and anti-medroxyprogesterone acetate (DMPA) antibody. It forms a coated secondary antibody-anti-medroxyprogesterone acetate (DMPA) antibody-medroxyprogesterone acetate (DMPA) (HRP) complex, marking the binding amount of medroxyprogesterone acetate (DMPA) and the amount of [Chinese name] in the sample Inversely proportional. After color development, measure the absorbance value (OD value) on a microplate reader, fit the concentration-absorbance curve through a computer or drawing, and back-calculate the content of medroxyprogesterone acetate (DMPA) in the serum to be tested.

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Kit components and storage: Store unopened kits at 2-8 degrees Celsius. Do not use expired kits.

| Components | 48-well configuration | 96-well configuration | Store after opening |
|-------------------------|-----------------------|-----------------------|----------------------|
| Pre-coated enzyme plate | 48T | 96T | 2-8°C 14 days |
| Standard product | 0.3mL*6 tubes | 0.3mL*6 tubes | 2-8°C 14 days |
| sample diluent | 3ml | 6ml | 2-8°C 180 days |
| Antibody | 3ml | 6ml | 2-8°C 14 days |
| HRP labeled antigen | 3ml | 6ml | 2-8°C 14 days |
| Chromogenic substrate A | 3ml | 6ml | 2-8°C 180 days |
| Chromogenic substrate B | 3ml | 6ml | 2-8°C 180 days |
| stop solution | 3ml | 6ml | 2-8°C 180 days |
| 20×Lotion | 15ml | 25ml | 2-8°C 180 days |
| sealing film | 2 sheets | 2 sheets | |
| manual | 1 serving | 1 serving | |
| Ziplock bag | 1 | 1 | |

The concentrations of calibrators are: 40, 16, 8, 5.333, 1.25, 0 ng/ml.

Note: 1: Please check whether the label and quantity of the reagents

in the kit are consistent with the table before use.

2: If the components of the kit need to be used again, please ensure that they have not been contaminated since the last use. 3: If the enzyme plate is not used up in a single time, remember to seal it and store it at 2-8°C.

Prepare your own test equipment required for the test (not provided, but can assist in

1) Microplate reader capable of detecting absorbance at 450 nm 2) Pipette, pipette tip, and sample addition tank 3) 37°C incubator or water bath 4) Test tubes, centrifuge tubes, measuring cylinders, etc. for preparing reagents 5)

Distilled water or deionized water Ionized water

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6) Vortex shaker, microplate shaker

**Notes 1) For scientific research use only,
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- 2) Use within the validity period marked on the kit. Expired products must not be used.
- 3) Do not mix with kits or components from other manufacturers. Use the sample diluent provided with the kit.
- 4) If the sample value is higher than the highest standard concentration value, please dilute the sample appropriately and then re-measure.
- 5) Human anti-mouse and other heterophilic antibodies present in the sample to be tested will interfere with the test results. Please eliminate this factor before testing.
- 6) The test results obtained by other methods are not directly comparable to the test results of this kit.
- 7) Please wear a lab coat and latex gloves for protection during the test. Especially when testing blood or other body fluid samples, please follow the national biological laboratory safety protection regulations.
- 8) Carry out incubation strictly according to the specified time and temperature to ensure accurate results. All reagents must reach room temperature 20-25°C before use. Store reagents refrigerated immediately after use.
- 9) Improper plate washing can lead to inaccurate results. Make sure to absorb as much liquid as possible from the wells before adding substrate. Do not allow the microwells to dry out during incubation.
- 10) Eliminate residual liquid and fingerprints on the bottom of the plate, otherwise it will affect the OD value.
- 11) The substrate chromogenic solution should be colorless or very light in color.
- 12) Avoid cross-contamination of reagents and specimens to avoid erroneous results.

13) Avoid direct exposure to strong light during storage and incubation.

14) The microplate reader used for detection needs to be equipped with a filter capable of detecting a wavelength of $450\pm 10\text{nm}$, and the optical density range is between 0-3.5. It is recommended to preheat 15 minutes in advance before use.

15) The EP tubes and suction tips used in the test are single-use and are strictly prohibited from mixing.

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Sample preparation and storage

The following lists only general guidelines for sample collection and preservation. During the collection and storage of all samples, sodium azide must not be used as a preservative. If the sample is not analyzed immediately, it should be aliquoted and stored frozen, and repeated freezing and thawing should be avoided.

Cell culture supernatant - centrifuge to remove precipitate, analyze immediately or aliquot and store frozen at -20°C.

Serum - Collect blood in a clean test tube, coagulate at room temperature for 30 minutes, centrifuge at 2000×g for 20 minutes, and collect serum. Analyze immediately or aliquot and store frozen at -20°C.

Plasma—anticoagulate with heparin, citrate, or EDTA, and centrifuge at 2000×g for 20 minutes at 2-8°C within 30 minutes of blood draw. To eliminate the effect of platelets, it is recommended to further centrifuge at 10,000 × g for 10 minutes at 2-8°C. Analyze immediately or aliquot and store frozen at -20°C.

Cell lysis buffer - For adherent cells, remove the culture medium and wash with PBS, normal saline or serum-free culture medium. Add an appropriate amount of lysis solution and pipet several times with a gun to fully contact the lysate and cells. Typically after 10 seconds, cells are lysed. For suspended cells, collect the cells by centrifugation and wash them once with PBS, physiological saline or serum-free culture medium. Add an appropriate amount of lysis solution, blow the cells with a gun, and flick them with your fingers to fully lyse the cells. After full lysis, centrifuge at 10000-14000×g for 3-5 minutes and take the supernatant. Analyze immediately or aliquot and store frozen at -20°C.

Tissue homogenate - rinse the tissue with pre-cooled PBS (0.01M, pH=7.4) to remove residual blood (lysed red blood cells in the homogenate will affect the measurement results), weigh and cut the tissue into pieces. Mix the minced tissue with the corresponding volume of PBS (generally

at a weight-to-volume ratio of 1:9, for example, 1g of tissue sample corresponds to 9mL of PBS. The specific volume can be adjusted appropriately according to experimental needs and recorded. It is recommended to add Protease inhibitor) was added to a glass homogenizer and ground thoroughly on ice. In order to further lyse tissue cells, the homogenate can be sonicated or repeatedly frozen and thawed. Finally, centrifuge the homogenate at $5000 \times g$ for 5 to 10 minutes, and take the supernatant for detection.

Urine - Collect in sterile tubes and centrifuge at $2000 \times g$ for 20 minutes. Carefully collect the supernatant. If a precipitate forms, centrifuge again.

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**Reagent preparation 1. Before use, all components must be rewarmed**

for at least 60 minutes to ensure sufficient rewarming to room

temperature.

2. Concentrated washing liquid: The concentrated washing liquid taken out from the refrigerator will produce crystals. This is a normal phenomenon. Heating in a water bath will completely dissolve the crystals. Concentrated detergent and distilled water, dilute 1:20, that is, 1 part of concentrated detergent, add 19 parts of distilled water.

3. Substrate: Substrate solutions A and B, mix thoroughly at a volume of 1:1 before use, and use within 15 minutes after mixing.

Operating procedures: Return all reagents and components to room temperature first. It is recommended to do duplicate holes for standards, quality control materials and samples.

1. Prepare the working solution of various components of the kit according to the method described in the previous instructions.

2. Take out the required slats from the aluminum foil bag, seal the remaining slats in a ziplock bag and return it to the refrigerator.

3. Before each experiment, according to the experimental detection quantity, take 1/10 of the volume of the enzyme-labeled antigen and mix it with the enzyme-labeled antigen to make an enzyme-labeled antigen mixture. For example: take 3ml of enzyme-labeled antigen, add 0.3ml of antibody and mix to make a mixed solution.

4. Take out the pre-coated plate from the sealed bag, and set up a blank control well without adding any liquid; set up two holes for each calibrator in turn, and add 50 μ l of the corresponding calibrator to each

well; add quality directly to each of the remaining detection holes. 50μl of control substance or serum to be tested.

5. Add 50 μl of enzyme label mixture to each well (except the blank control well), mix thoroughly, attach a sealing film, and incubate at 37°C for 1 hour.

6. Manual plate washing: discard the liquid in the wells, fill each well with washing solution, let stand for 10 seconds and spin dry, repeat 3 times and pat dry. Wash the plate with a plate washer: select the washing program 3 times and pat dry after washing the plate.

7. Add 50 μl of developer solution A and 50 μl of developer solution B to each well. After shaking and mixing, place at 37°C to develop color in the dark for 15 minutes. Add 50 μl of stop solution to each well.

8. Use a microplate reader to read. For a 450nm single-wavelength microplate reader, you need to first adjust the zero point with a blank control hole, and then measure the absorbance value of each well.

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Result calculation

9. Use the concentration of the standard substance as the abscissa and the corresponding absorbance (OD value) as the ordinate. Use computer software and four-parameter Logistic curve fitting (4-pl) to create a standard curve equation. Through the absorbance (OD value) of the sample value), use the equation to calculate the concentration value of the sample. [Calculation using ELISA Calc software]
10. If the sample is diluted, the concentration value measured by the above method must be multiplied by the dilution factor to obtain the final concentration of the sample. Note: Experimenters need to establish a standard curve based on their own experiments. For each test, a standard curve must be established for each enzyme plate. The following curves are for reference only!



(Schematic diagram of the music, for reference only)

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[Problem Analysis] If the experimental results are not good, please take pictures of the color development results in time, save the experimental data, keep the used strips and unused reagents, and then contact our company's technical support to solve the problem for you. At the same time, you can also refer to the following information:

[Questions and Answers]

| Problem description | Possible reasons | Corresponding countermeasures |
|------------------------------------|---|--|
| standard curve gradient difference | Incorrect liquid aspiration or | Check pipettes and tips |
| | Equilibration time is too short | Ensure sufficient balancing time |
| | Incomplete washing | Ensure the washing time and number of washings and the amount of liquid added to each hole |
| Very weak or colorless | Incubation time too short | Ensure adequate incubation time |
| | The experimental temperature is incorrect | Use recommended experimental temperatures |
| | Insufficient reagent volume or missing addition | Check the liquid aspirating and adding process to ensure that all reagents are added in order and in |
| | Incorrect dilution | |
| | Enzyme label inactivation or substrate failure | Mix enzyme conjugate and substrate and check by rapid color development |
| Reading value is low | Microplate reader settings are incorrect | Check the wavelength and filter |
| | | Turn on the microplate reader and preheat it in advance |
| Large coefficient of variation | Adding fluid incorrectly | Check the filling situation |
| High background value | The working concentration of the | Use the recommended dilution |
| | Incomplete washing of enzyme plate | Ensure that each step of cleaning is complete; if using an automatic plate washer, please check whether all outlets are blocked; |
| | The lotion is contaminated | Prepare fresh lotion |
| Low sensitivity | Improper storage of ELISA kits | Store relevant reagents according to |
| | Not terminated before reading | Stop solution should be added to |

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