# BSA Removal Kit

**Cat. No: E-LK-R002** **Size: 10 Reaction**

| Cat. | Products | 10 Reaction | Storage |
|---|---|---|---|
| E-LK-007 | 1×PBS (pH7.4) | 10 mL×2 | 2~8 ℃ |
| E-LK-002 | BSA Removal buffer | 1 mL×1 | 2~8 ℃ |
| Manual | | One Copy | |

## Storage

Store at 2~8 ℃ for 12 months for unopened kit.

## Introduction

BSA is often added to the antibody as an antibody protectant. However, when the antibody needs to be labeled with other chemicals, the BSA added to the antibody has to be removed, otherwise the labeling coupling effect will be greatly reduced. When the antibody contains a higher concentration of BSA or BSA is higher than the antibody concentration, it is almost impossible to label the antibody successfully.

There are many methods to remove BSA from antibodies, such as protein A/G or antigen affinity purification, molecular exclusion purification or other purification methods. The steps are often cumbersome, and the conditions and costs are high. The Elabscience® BSA removal kit is convenient and quick to use. The whole process only needs 15 min. The purified antibody does not need replacement buffer and can be directly used for subsequent labeling of reduced antibodies. The kit is suitable for each antibody subtype of each species.

## Materials Not Supplied

High precision pipette, centrifuge(maximum centrifugal force up to 13000×g), thermostatic water bath, disposable suction, 1.5 mL EP tube, 50 kDa ultrafiltration tube.

## Experimental Procedure

1. Take out the kit and equilibrate to room temperature.

   Note: E-LK-002 may crystallize precipitation. It can be completely dissolved in a 37 ℃ water bath before use. After dissolution, equilibrate to room temperature for use.

2. [Optional] Take 50 kDa ultrafiltration tube ( self-provided ), add 450 μL E-LK-007, centrifuge at 13000×g for 1 min, pour the liquid in the collection tube. Add the antibody containing BSA to the inner tube, supplement to 450 μL, centrifuged at 13000×g for 1 min and the ultrafiltration was repeated three times. Invert the inner tube in the collecting tube, centrifuged at 13000×g for 1 min and collect the liquid in the inner tube.

   Note:

   1 ) The pH range of the antibody application to this kit is 6.0 ~ 8.0. If the pH value of the antibody is not within this range, step 2 is required.


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2 ) When the antibody contains a certain amount of glycerol, it will interfere with the purification effect. When the glycerol concentration exceeds 20 %, step 2 is required.

3. Add the antibody mixture obtained in step 2 to a 1.5 mL EP tube. and directly add E-LK-002 at the ratio of 80 μL E-LK-002 per 100 μL mixture, After mixing, incubate at room temperature for 5 min and centrifuged at 13000×g for 5 min.
4. Centrifuge and discard the supernatant. The white precipitate at the bottom was the isolated and purified antibody.
5. Dissolve the purified antibody with E-CK-LK-007 (estimate the volume of E-LK-007 that needs to be added according to the original amount of antibody and the required concentration, and then directly perform subsequent labeling steps, or use other buffers to dissolve the antibody according to actual needs ).

## Cautions

1. This kit is for research use only.
2. This kit is suitable for the purified antibody amount above 60 μg, otherwise the white precipitate at the bottom cannot be seen after centrifugation and purification. If the antibody concentration is low, ultrafiltration concentration using ultrafiltration tube..
3. When the concentration of BSA is higher than 0.5 %, it is necessary to dilute the antibody to lower than 0.5%.
4. E-LK-007 can be used as replacement antibody buffer.
5. If the purified antibody needs to be labeled with dyes containing NHS groups, dialysis or ultrafiltration desalination of the antibody is required. If only reduction treatment of the antibody is carried out, there is no need for this operation.
6. The type of antibody referred to in this kit is IgG antibody, which has not been tested for IgM, IgA, IgD, IgE, IgY or other recombinant subtype unit antibodies or antibody fragments. Different antibody types may have different purification effects.
7. For your safety and health, please wear lab coats and disposable gloves.


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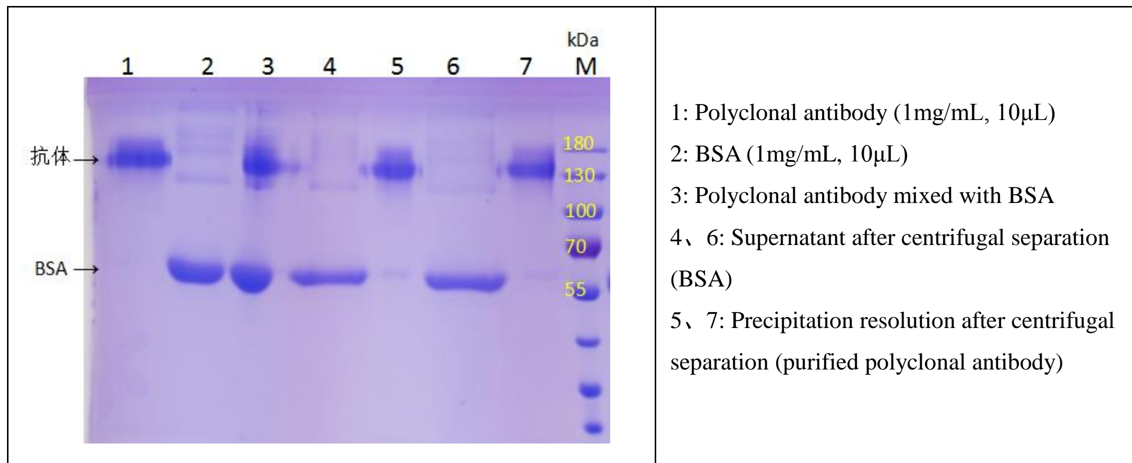
## Typical Results




1: Polyclonal antibody (1mg/mL, 10μL)
2: BSA (1mg/mL, 10μL)
3: Polyclonal antibody mixed with BSA
4、6: Supernatant after centrifugal separation (BSA)
5、7: Precipitation resolution after centrifugal separation (purified polyclonal antibody)

## Troubleshooting

| Symptoms | Causes | Comments |
| --- | --- | --- |
| The quality of purified antibodies is reduced | Since the pre-purified antibody contains BSA protein, neither A280 nor BCA is accurate. | PAGE electrophoresis quantified antibody concentration and quality. |
| | In step 4 : Too much force during the process of absorbing the supernatant liquid. | Operate carefully. |
| | In Step 3, E-LK-002 was not added in strict proportion. | Operate strictly in accordance with the instructions. |
| Purified Antibody Unlabeled with Small Molecule Dye Containing NHS Group | Step 4, the supernatant is not completely dried, more residue. | 1. Absorb supernatant liquid as much as possible.<br>2. After purifying the antibody, carrying out ultrafiltration for a plurality of times (2-4 times) by using the labeling buffer solution or carrying out desalination and dialysis treatment. |
| | Not fully operated in accordance with the NHS-containing small molecule dye labeling process. | 1. Accurate quantification of antibody concentration.<br>2. Set different dye molecular ratios for labeling. |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| | | |
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| No small white precipitate was obtain in step 4 | Too little antibody content. | Operate according to the recommended content. |
| | Antibodies contain proteins other than BSA, such as gelatin, etc. | Antibody affinity chromatography is recommended for antibody purification. |
| | Antibody type is not applicable ( such as antibody type is nano antibody, antibody fragment ). | Antibodies purified by other purification methods. |



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