Bioligand Rapid Conjugation Kit (Gel)

Cat No: AKIT-G-9000

Description

The surface of the preactivated gel in the Bioligand Rapid Conjugation Kit (Gel) is modified with special groups, which can form stable chemical bonds with proteins and other molecules with primary amine groups for affinity purification of antibodies, antigens and other biomolecules. Without activation, the biological ligand containing primary amino group is simply dissolved in the Coupling buffer or PBS provided with the kit, and the biological ligand can be covalentially coupled to the gel by mixing the biological ligand with the gel for 1 ~ 2 h at room temperature, which has the advantages of simple operation, mild coupling conditions, and fast and efficient biological ligand coupling. The coupling process must be carried out in a buffer solvent that does not contain any amino groups. When manually operated, a centrifuge is used to separate the gel from the solvent.

For custom sizes, formulations or bulk quantities please contact our customer service department.

Website: www.abvigen.com Phone: +1 929-202-3014 Email: info@abvigenus.com

Characteristics

1. Kit Component

Biological ligands rapidly coupled gel	2 mL (50%)
Washing Buffer	60 mL
Coupling Buffer	10 mL
Blocking Buffer	10 mL
Storage Buffer	10 mL

2. Basic information about gel

Mean particle size	90 µm
Binding ability	≥ 10 mg IgG/mg gel
Concentration	50%
Preservative solution	100% acetone

Storage condition	Store at 2 ~ 8°C away from light for one year

Note: After opening the gel, keep it sealed and use it as soon as possible.

3. Binding ability with different molecular weight proteins

Protein	Molecular weight (kDa)	Gel bonding ability (mg/mL of gel)
IgG	150	10
Streptavidin	53	8
Protein A/G	50	10
Protein G	29	10

Note: The amount of binding is affected by the number of active primary and secondary amine groups in the protein.

Operation Process

Coupling method of gel and biological ligands

The following procedure is described by taking a gel sample of 500 µL and using a 2 mL EP tube. Users can adjust according to their own needs:

1. Preparation of ligand solution:

Appropriate amount of ligand to be coupled is dissolved by Coupling Buffer and prepared into a ligand solution with a concentration of 1 ~ 10 mg/mL. Ligands that have been stored in buffers need to be completely removed from the original buffers containing primary amine groups by means of dialysis or desalting. Then Coupling Buffer can be used to prepare ligand solutions with a concentration of 1 ~ 10 mg/mL, and the prepared ligand solutions can be stored at 4°C for further use.

Note: (1) In order to achieve better performance, when the ligand concentration is ≥ 5 mg/mL, the coupling efficiency will be higher, but it should be comprehensively considered according to the cost and use requirements;

(2) The ligand solution cannot contain components with primary amino groups, such as Tris, glycine, gelatin, BSA, etc.;

2. Gel cleaning: After mixing the gel, take 500 µL gel into 2 mL EP tube, centrifuge at 1000 rpm for 2 min, remove the supernatant, mix the gel with 1 mL Washing Buffer, then centrifuge to remove the supernatant, and repeat the above steps for 4 times;

Note: Gel loss should be avoided when removing supernatant.

3. Biological ligand coupling: Add 500 µL ligand solution to the EP tube equipped with gel (appropriate dosage and concentration need to be optimized according to the specific experiment),

gently mix, coupling at 25°C for 1 ~ 2 h, or place the coupling at 4°C overnight, keep the gel suspended during the coupling (can be inverted mixing by rotary mixer);

4. Sealing: After coupling, the supernatant was removed by centrifugation at 1000 rpm for 5 min, add 1mL Blocking Buffer to re-suspend the gel, close it at 25°C for 2 h, or place it at 4°C for overnight, keep the gel suspended during the closure (can be inverted mixing by rotary mixer);

5. Preservation: The supernatant was removed by centrifugation at 1000 rpm for 5 min, washed 3 times with 1 mL Storage Buffer, and then re-suspended in 250 µL Storage Buffer. The gel concentration after coupling ligand was finally 50%, and finally stored at 4°C. The amount of preservation solution can be determined according to the need to adjust the concentration of the gel, if necessary, 0.05% sodium azide or 0.1% proclin-300 can be added to the preservation solution to inhibit bacterial growth.

Notes

1. Before performing the experiment, please be sure to read this operation manual carefully.
2. Before using this product, be sure to fully oscillate or mix the gun head to keep the gel in uniform suspension.
3. The buffer containing substances with primary amine will inhibit the protein coupling to the surface of the magnetic bead, and the removal of primary amine substances can be used by dialysis and desalination.
4. In order to ensure the best experimental results, please select the appropriate ligand for covalent coupling reaction.
5. This product is for scientific research only.

Ordering Information

Website: www.abvigen.com
Phone: +1 929-202-3014
Email: info@abvigenus.com