Universal ELISA Buffer Set (6 Components)

E1501079

Storage: 2-8℃. Protect from light. Do not freeze.

Shipping: Shipping with ice packs. Please store under the specified storage conditions immediately upon receipt.

Introduction

Universal ELISA Buffer Set is a comprehensive solution kit containing commonly used buffers and reagents for ELISA procedures, including sandwich ELISA. The set includes coating buffer, blocking buffer, wash buffer, universal dilution buffer, chromogenic substrate, and stop solution, meeting the standard solution requirements for routine ELISA. Users only need to provide the ELISA detection antibodies (and biotin detection reagents if using a biotin system), microplates, and sealing films (and standards if absolute quantification is required) to perform ELISA.

ELISA (Enzyme-Linked Immunosorbent Assay) is a highly sensitive immunological technique that combines the specific reaction between antigen and antibody with the efficient catalytic action of an enzyme on its substrate. It is widely used across many fields in biology and medical science. Common types of ELISA include the double antibody sandwich ELISA (Sandwich ELISA), competitive ELISA, direct ELISA, and indirect ELISA. The double antibody sandwich ELISA, often abbreviated as sandwich ELISA, is one of the most common ELISA formats and can be used to determine the concentration of target molecules, such as specific proteins, in a sample.

Product components

E1501079	Components	5 Plates	20 Plates	Storage	Quantity Per Plate
E1501079A	Coating Buffer	55 mL	220 mL	2-8℃	10 mL
E1501079B	Blocking Buffer	110 mL	440 mL	2-8℃	20 mL
E1501079C	Wash Buffer (10×)	200 mL	2×400 mL	2-8℃	40 mL
E1501079D	Color Development Solution A	30 mL	120 mL	2-8℃ Store in the dark	5 mL
E1501079E	Color Development Solution B	30 mL	120 mL	2-8℃ Store in the dark	5 mL
E1501079G	Stop Buffer	50mL	200 mL	2-8℃	10 mL

Note: Each plate is sufficient for one 96-well microplate.

Instructions for Use

Refer to the specific ELISA kit instructions for detailed procedural steps. The following describes the general for each solution in this set; conditions can be optimized according to actual experimental needs.

1. Coating Buffer

Use directly without dilution or reconstitution. Dilute the capture antibody to an appropriate concentration using the Coating Buffer. Add 100 µL per well to a blank microplate. Incubate overnight at 4°C, or for 2 hours at 37°C.

2. Blocking Buffer

Use directly without dilution or reconstitution. After coating, wash the plate 3 times with Wash Buffer (1×, preparation see step 3). Add 200 µL of Blocking Buffer per well and incubate at room temperature for 120 minutes. Discard the liquid, blot the plate dry, and proceed directly to subsequent steps such as primary antibody incubation. For preparing pre-coated plates: After room temperature blocking for 2 hours, discard the liquid and blot dry. Invert and dry the plate at 37°C for 90 minutes. Pre-coated plates can be sealed in a moisture-proof bag with desiccant or stored in other suitable conditions. Typically, they can be stored at 4°C for approximately six months.

3. Wash Buffer (10×)

a. Preparation of Working Solution (1×). To prepare 1 liter of Wash Buffer (1×) as an example: Pipette 10 mL of Wash Buffer (10×) into a clean measuring cylinder. Add distilled water, mix, and bring to a final volume of 100 mL. This is now ready-to-use Wash Buffer (1×). Unused prepared Wash Buffer (1×) can be stored at room temperature and is typically stable for 1-2 weeks. For longer storage, keep unused Wash Buffer (1×) at 4°C, where it is typically stable for up to 2 months. Discard the buffer if turbidity or precipitation is observed.

b. Automatic plate washer or manual plate washing: Add 300 µL of washing buffer to each well and allow an interval of 15-30 seconds between dispensing and aspiration. Wash the plate 3-5 times. After the final wash, invert the plate and pat it firmly on thick absorbent paper to dry completely. Proceed with subsequent steps. If the signal value of blank wells in the ELISA remains high under the above washing conditions, appropriately extend the washing time and increase the number of washing cycles. Generally, extending the washing time or increasing the washing frequency will not exert a negative impact on the ELISA results.

4. Color Development Solution

Prepare the working solution by mixing Components A, B at a 1:1 volume ratio. After incubation with SA-HRP or other HRP-conjugated antibodies, wash the plate 3-5 times with Wash Buffer (1×).After the final wash and removal of buffer, add 100 µL of the prepared Color Development Solution per well. Incubate at room temperature for 5-30 minutes, or until the desired color intensity is achieved. Note: This product reacts rapidly. The incubation time can be shortened if necessary.

5. Stop Solution

Use directly without dilution or reconstitution. Add 100 µL of Stop Solution per well to terminate the reaction. Read the absorbance promptly thereafter. The absorbance typically remains stable for up to 1 hour after stopping the reaction.

Precautions

1. This set provides buffers and solutions only. High-binding microplates, plate sealers, sealer scrapers, etc., must be supplied by the user.
2. Before use, allow all solutions to equilibrate to room temperature after removing them from 4°C storage.
3. It is recommended to aliquot the required volume for use. Avoid pipetting directly from the stock bottles. Do not return unused solution to the original container.
4. Wash Buffer (10×) may crystallize at low temperatures. If crystals are observed, warm the bottle in a room temperature water bath until crystals are completely dissolved before preparing the working solution.Prepared Wash Buffer (1×) is best stored at 4°C and used within 1-2 months. If stored at room temperature, use within 1-2 weeks.
5. If the TMB Color Development Solution appears turbid or turns blue, it should not be used.
6. If precipitation forms after adding the TMB Color Development Solution or Stop Solution, it may indicate an excessively high concentration of the target protein in the sample. It is recommended to dilute the sample and repeat the test.
7. Caution: Stop Solution is corrosive. Handle with care. Wear appropriate personal protective equipment to avoid contact with skin or eyes. Take care to avoid corrosion of other materials.
8. This product is for research use only by qualified professionals. It is not intended for diagnostic or therapeutic use, nor for use in food or drugs. Do not store in ordinary household areas.
9. For your safety and health, wear a lab coat and disposable gloves during operation.