

## Blue-White Screening Kit-4

**CAT NO.:** IK-BWS-3

**Storage:** -20°C, 2 years

### Introduction

This kit is designed by Solarbio specifically for Blue-White Screening . This kit selects 2 classic basic reagents and high-quality antibiotics, aiming to build a "one-stop service platform" for customers, saving time, effort, and worry. This kit has passed biological safety testing and product quality testing, with stable and effective performance, small inter batch differences, good biological activity, and have been verified by a large number of literature and multiple parties, ensuring reliable quality.

IPTG is the gratuitous inducer and X-gal is the chromogenic substrate, both of which are used for Blue-White Screening. IPTG can induce the Lac operon DNA segment to synthesize the amino-terminal segment of  $\beta$ -galactosidase, which can complement the defective  $\beta$ -galactosidase encoded by the host cell ( $\alpha$  complementation). Bacteria that achieve alpha complementation form blue colonies when spread on a medium containing an X-gal chromogenic substrate. When foreign DNA is inserted into the polyclonal site of the plasmid, alpha complementation can be destroyed and white colonies will be formed.

### Kit Components

Reagent	Size	Storage
Reagent 1 X-gal	120mg	-20°C, away from light
Reagent 2 IPTG	150mg	2-8°C, away from light
Reagent 3 Kana	120mg	2-8°C, away from light

Note:

- The components of this product are non-sterile, please filter sterilization before using reagents 1, 2, 3.
- Before use, please centrifuge each tube of low-dose reagents instantly to avoid loss.

### Product Characteristics

- All products in this kit are packaged in powder form with a long shelf life, and can be freely prepared according to customer experimental needs.
- Flexible customization. Customers can flexibly add or remove compounds according to experimental needs. Customization of specifications and packaging is also possible.
- Adequate inventory, spot delivery, high cost-effectiveness.

### Protocols *(only for reference)*

#### Preparation Solution

- Generally, X-gal is recommended to dissolve with DMF or DMSO, prepare a solution of 20mg/mL, and store it at -20°C away from light.
- IPTG is recommended to dissolve in ddH<sub>2</sub>O, prepare 50mg/mL solution, and store it at -20°C away from light.
- Antibiotics (Amp or Kana) are recommended to be dissolved in ddH<sub>2</sub>O, prepared as a 100mg/mL solution, and stored at -20°C away from light.

Note: The above solution is recommended to use 0.22 $\mu$ m filter for sterilization, and high temperature and high pressure sterilization is prohibited.

**Directly added to the culture medium for use (taking 100mL of agar containing medium as an example)**

1. Autoclave culture medium, cooled to about 55°C in super clean table.
2. Quickly add 500  $\mu$  L of Reagent 1, 250  $\mu$  L of Reagent 2, and 100  $\mu$  L of Reagent 3 to the still uncured culture medium, and mix thoroughly.
3. Prepare a plate culture medium containing X-Gal, IPTG, and antibiotics.

Note: a.X-gal, IPTG, and antibiotics cannot be sterilized under high pressure.

b.After autoclaving, X-gal, IPTG, and antibiotics can be added only when the medium is cooled to below 55°C.

**Directly added to Agar Plate for use (using a 90mm Plate as an example)**

1. Sterilize the culture medium containing agar under high pressure, and then make it into an Agar plate in a Clean Bench.
2. After the Agar Plate has fully solidified, add 40  $\mu$  L of reagent 1, 16  $\mu$  L of reagent 2, and 10  $\mu$  L of reagent 3 to the Plate, and use the plate coating method for operation.
3. Wait until the liquid is dry before use.

Note: The specific dosage can be adjusted according to the experimental results.

**Blue-White Screening**

1. After coating the bacteria on the plate, invert the plate at 37 °C overnight to easily select the recombinant gene based on the blue and white color of the growing colonies.

Note: White colonies are recombinant genes with DNA insertion fragments.

2. If the color is not obvious, it can be placed in the refrigerator at 4°C for 1-2 h. After a period of time, the blue-white color contrast display will be more obvious, easy to choose.

**Note**

1. X-Gal, IPTG and antibiotics are sensitive to temperature, and high temperature will deactivate them quickly.
2. This product is only used for scientific research experiments, not for clinical treatment.
3. For your safety and health, please wear a laboratory coat, disposable gloves and a mask.

**Related Products**

<i>IK-BWS-1</i>	<i>Blue-White Screening</i>	<i>Kit-1</i>
<i>IK-BWS-2</i>	<i>Blue-White Screening</i>	<i>Kit-2</i>
<i>IK-BWS-3</i>	<i>Blue-White Screening</i>	<i>Kit-3</i>
<i>IK-BWS-4</i>	<i>Blue-White Screening</i>	<i>Kit-4</i>
<i>IK-BWS-5</i>	<i>Blue-White Screening</i>	<i>Kit-5</i>
<i>IK-BWS-6</i>	<i>Blue-White Screening</i>	<i>Kit-6</i>