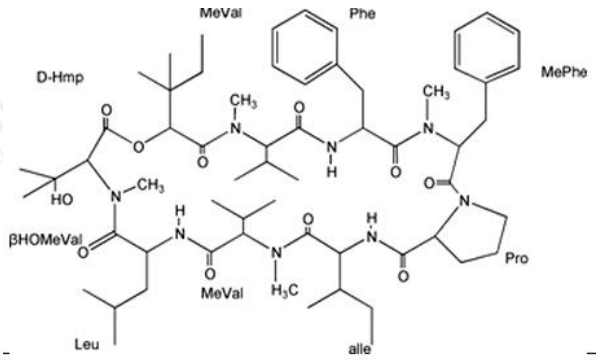
Aureobasidin A（AbA）

Cat: A6870
Specification: 1mg
Storage: Store at 4℃, and it is valid for 2 years.

Product Information
English Name: Aureobasidin A
Alias: AbA
Appearance (Character)： White dry powder
Molecular Formula： $C_{60}H_{92}N_8O_{11}$
Molecular weight： 1100
Purity： ≥95%
Solubility: 0.5 mg/mL in EtOH
Melting point： 155-157℃
Molecular Structure:



Introduction

AbA is a cyclic ester peptide antibiotic isolated from the filamentous fungus Aureobasidium pullulans No. R106, which has strong antifungal activity. At low concentrations of 0.1-0.5 μg/ml, it can be toxic to yeast. The sensitive fungal species include Saccharomyces cerevisiae, Schizosaccharomyces pombe, Candida glabrata, Aspergillus nidulans, and Aspergillus niger. The mechanism of action is that AbA inhibits the activity of inositol phosphorylceramide, IPC synthase, which is essential for fungal growth, interferes with sphingolipid synthesis, and further kills the strain. The genes encoding IPC synthase that have been studied most are the AUR1 gene from Saccharomyces cerevisiae and the AURA gene from Aspergillus nidulans, which have homology. Mutating these encoding genes can make the strain resistant to AbA, such as the AUR1-C gene.

AbA is an ideal drug selective marker for positive clone screening. AbA resistance is also an ideal reporter in yeast single/double hybridization studies. This product is an AbA solution dissolved in methanol with a concentration of 1 mg/ml. The specific working concentration depends on the sensitivity of the host cell.

Protocols:(the anti-AbA yeast transformation system)

1. Add 0.5 ml of overnight cultured yeast to 50 ml of YPD medium formula: 1L liquid medium contains 10g yeast extract, 20g polypeptone, 20g D-glucose; solid medium adds 2% agar.
2. Incubate at 30℃ for about 6 hours, and measure the OD_{660} to be 1-2. When using diploid, measure the OD_{660} to be 2-4.
3. Centrifuge at 1,000×g for 5 minutes.
4. Suspend the precipitate in 10 ml of Solution A formula: 100 mM Lithium acetate, 10 mM Tris-HCl pH 7.5, 1 mM EDTA, and centrifuge at 1,000×g for 5 minutes.
5. Resuspend the pellet with Solution A until the OD_{660} is 150.
6. Pipette 100 μl of cell suspension into the tube and incubate at 30℃ for 1 hour.

7. Add 5 μg of vector circular or linear DNA and 150 μg of Carrier DNA that have been heated at 100°C for 10 minutes and then rapidly cooled

   Note: pAUR101 requires linear DNA for transformation. Using circular DNA will reduce transformation efficiency and may even result in unsuccessful transformation. pAUR112 and pAUR123 require intact plasmid DNA for transformation.
8. Add 850μlSolution B (recipe: take 40 gPolyethylene Glycol 4000 and dissolve it in 100 ml Solution A until fully dissolved. It needs to be prepared on-demand). Gently mix.
9. After culturing at 30°C for 30 minutes, cultivate at 42°C for 15 minutes.
10. 4.Leave it at room temperature for 10 minutes.
11. 5.Centrifuge at 5,000 rpm for 1 minute, and suspend the sediment with 5ml of YPD medium
12. 6.Incubate at 30°C for 6 hours to overnight.
13. Centrifuge at 5,000 to 10,000 rpm and suspend the pellet in 1-10 ml of 0.9% NaCl.
14. Inoculate 100μl cell suspension on YPD selective medium plate (containing a certain concentration of AbA, depending on the strain type). After 3-4 days of cultivation at 30°C, the transformation is complete.
15. Select positive transformants and/or determine the transformation efficiency (expressed as the number of colonies transformed per microgram of plasmid DNA)

Note:

1. The optimal working concentration of AbA varies depending on the host cell, and can be determined based on the minimum inhibitory concentration (MIC).
2. The product information is for reference only. If you have any questions, please call 400-968-6088 for consultation.
3. The products are all for scientific research use only. Do not use it for medical, clinical diagnosis or treatment, food and cosmetics, etc. Do not store them in ordinary residential areas.
4. For your safety and health, please wear laboratory clothes, disposable gloves and masks to operate.