

## Polybrene (10 mg/mL)

### Introduction

Polybrene, also known as Hexadimethrine Bromide, is a cationic polymer widely used in retrovirus-mediated or lentivirus-mediated gene transfection. The mechanism of action may be to neutralize electrostatic repulsion between cell surface acid and viral particles. In addition, Polybrene can also be used in DNA transfection to enhance the transfection efficiency of liposomes. Meanwhile, Polybrene is an anti-heparin agent and can be used to produce non-specific agglutinated red blood cells. At the same time, Polybrene can be used in protein sequencing to enhance peptide degradation. The addition of Polybrene to the PVDF membrane can also improve the affinity of the membrane.

This product is supplied as a 10 mg/mL stock solution dissolved in 0.9% NaCl and sterilized by a 0.22  $\mu$ M filter. Polybrene may be toxic to some cells, and long-term treatment (> 12 h) may also be toxic to some cells. Therefore, it is recommended to perform a toxicity test for the first time using.

### Components and Storage

Components	K2701-500 $\mu$ L	K2701-5 x 500 $\mu$ L
Polybrene (10 mg/mL)	500 $\mu$ L	5 x 500 $\mu$ L
This product should be stored at -20°C, stable for 2 years. Power should be away from moisture, and stock solution needs avoid repeated frozen/thaw cycles.		

### Protocol

- Cell seeding:** Seed cells in 6-well plates (or other plates) and incubate at 37°C, 5% CO<sub>2</sub> for 24 h. it is better to grow cells to a 50% confluency on day 2.
- Virus preparation:** Remove the viral stock from the -80°C freezer and thaw it in an ice bath. Dilute the viral stock in a fresh medium to obtain the desired MOI, then add appropriate Polybrene and mix gently.

**\*Note:** The optimal working concentration of Polybrene varies depending on cell types. The generally recommended working concentration is 2-10  $\mu$ g/mL, with the most commonly used concentration being 5-8  $\mu$ g/mL.

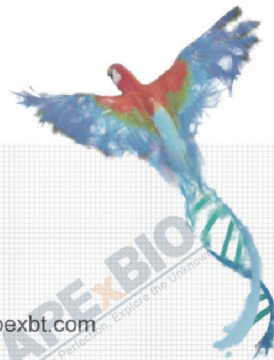
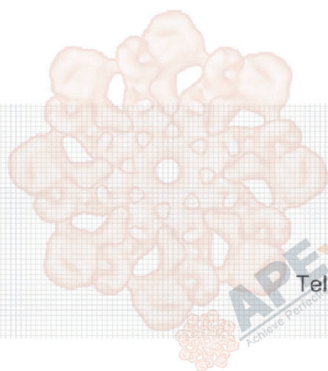
- Viral infection:** Remove the old medium of the cells, and culture cells in the medium containing virus and Polybrene.
- Screening:** After 24 h, remove the medium and replace it with a fresh medium without virus or Polybrene,

then use corresponding antibiotics to screen the cells.

**\*Note:** The optimal time of viral infection varies depending on cell types and can be adjusted for different experiments.

## ■ Note

1. In order to avoid repeated freeze/thaw cycles, it is recommended to be prepared in single-use aliquots.
2. Polybrene may be toxic to some cells, and long-term treatment (> 12 h) may also be toxic to some cells. Therefore, it is recommended to perform a toxicity test for the first time using.
3. This product may be toxic to the human, please pay attention to protection when using.
4. For your safety and health, please wear lab coats and gloves during the experiment.
5. For research use only. Not to be used in clinical diagnostic or clinical trials.



## APEx BIO Technology

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