

## CEPT Cocktail

### Introduction

CEPT Cocktail is a combination of small molecules developed by the National Institutes of Health for use in stem cell research. CEPT Cocktail consists of four compounds, namely Chroman 1, Emricasan, Trans-ISRIB, and Polyamine Supplement. Studies have shown that CEPT can significantly prevent cell stress and DNA damage of human pluripotent stem cells (hPSCs) during passaging, and can improve the survival rate of hPSCs during passaging and cryopreservation. In addition, CEPT can also improve cell survival in a variety of stem cell studies, such as embryo-like and organoid formation, single-cell cloning, and gene editing.

### Components and Storage

Components	K2714-1 Kit
Chroman 1	1 vial
Emricasan	1 vial
Trans-ISRIB	1 vial
Polyamine Supplement	1 vial
Sterile DMSO	5 mL

Store the kit at -20°C away from moisture, stable for 1 year. Once prepared, the stock solutions should be stored at -80°C and stable for 6 months, or at -20°C and stable for 1 month.

### Protocol

1. Refer to the following table for preparing CEPT Cocktail stock solutions.

Products	Unit size	Volume for Reconstitution	Stock solution concentration	Dilution ratio for use
Chroman 1	1 vial	500 µL Sterile DMSO	0.5 mM	10000X
Emricasan	1 vial	500 µL Sterile DMSO	50 mM	10000X
Trans-ISRIB	1 vial	500 µL Sterile DMSO	7 mM	10000X
Polyamine Supplement	1 vial	5 mL ddH <sub>2</sub> O	-	1000X

2. To prepare the Chroman 1 (0.5 mM), Emricasan (50 mM), and Trans-ISRIB (7 mM) stock solutions, add 500  $\mu$ L of Sterile DMSO to each of the corresponding tubes. Mix well or gently heat in a 45-60°C water bath until completely dissolved. When used, those three stock solutions are diluted 1:10000 in the cell culture medium.
3. To prepare the Polyamine Supplement stock solution, add 5 mL of sterilized ddH<sub>2</sub>O to the bottle, allow it to dissolve thoroughly, and filter it before use. When used, the Polyamine Supplement stock solution is diluted 1:1000 in the cell culture medium.
4. Filter the prepared cell culture medium before use.

## Note

1. Once prepared, the stock solutions should be stored at -80°C and stable for 6 months, or at -20°C and stable for 1 month.
2. For your safety and health, please wear lab coats and gloves during the experiment.
3. For research use only. Not to be used in clinical diagnostic or clinical trials.

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