



Stem Cell Survival Reagent Kit (CEPT)

Item No. 502884

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TABLE OF CONTENTS

| | | |
|----------------------------|---|-----------------------------------|
| GENERAL INFORMATION | 3 | Materials Supplied |
| | 3 | Safety Data |
| | 4 | Precautions |
| | 4 | If You Have Problems |
| | 4 | Storage and Stability |
| | 4 | Materials Needed but Not Supplied |
| INTRODUCTION | 5 | Description |
| PREPARATION | 6 | Reagent Preparation |
| RESOURCES | 7 | Notes |
| | 7 | Warranty and Limitation of Remedy |

GENERAL INFORMATION

Materials Supplied

| Item No. | Item Name | Quantity/Size | Storage |
|----------|--|---------------|---------|
| 34682 | Chroman 1 (hydrochloride hydrate) | 1 vial/1 mg | -20°C |
| 22204 | Emricasan | 1 vial/10 mg | -20°C |
| 43829 | Polyamines Supplement Mix (1,000X) (aqueous solution) | 1 vial/5 ml | -20°C |
| 16258 | <i>trans</i> -ISRIB | 1 vial/5 mg | -20°C |

If any of the items listed above are damaged or missing, please contact our Customer Service department at (800) 364-9897 or (734) 971-3335. We cannot accept any returns without prior authorization.



WARNING: THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Safety Data

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent *via* email to your institution.

Precautions

Please read these instructions carefully before beginning this assay.

If You Have Problems

Technical Service Contact Information

Phone: 888-526-5351 (USA and Canada only) or 734-975-3888

Email: techserv@caymanchem.com

In order for our staff to assist you quickly and efficiently, please be ready to supply the lot number of the kit (found on the outside of the box).

Storage and Stability

This kit will perform as specified if stored as directed in the **Materials Supplied** section (see page 3) and used before the expiration date indicated on the outside of the box.

Materials Needed But Not Supplied

1. Cell culture-grade DMSO

INTRODUCTION

Description

The components of this kit can be combined to produce the small molecule cocktail CEPT. When mixed with the appropriate cell culture media, CEPT promotes cell survival and cryopreservation of genetically stable human pluripotent stem cells (hPSCs).^{1,2} Chroman 1, a Rho-associated kinase (ROCK) pathway inhibitor, blocks cell contraction, which is detrimental to dissociated hPSCs. Emericasan synergistically improves cell survival through its action as a pan-caspase inhibitor, and *trans*-ISRIB regulates protein translation by directly targeting eukaryotic initiation factor 2 β (eIF2 β) to ensure unperturbed protein synthesis. Polyamines Supplement Mix contains essential polyamine cations known to support cell growth.

Each component in this kit is provided separately, and instructions are included to reconstitute and mix these reagents for direct dilution into cell culture media. The kit is intended to supplement up to 3 L of culture media when following the supplied instructions. Some reagents may be provided in excess and may be properly disposed of after cell media preparation. Prior to use, reagents must be stored as instructed at -20°C.

Reagent Preparation

Preparation of Individual Stock Solutions

1. Prepare a 0.5 mM (10,000X) stock solution of chroman 1 by adding 3.792 ml of sterile DMSO to the vial and vortexing until fully dissolved. The chroman 1 solution may be diluted in cell culture media to a final concentration of 50 nM.
2. Prepare a 50 mM (10,000X) stock solution of emricasan by adding 351 μ l of sterile DMSO to the vial and vortexing until fully dissolved. The emricasan solution may be diluted in cell culture media to a final concentration of 5 μ M.
3. Prepare a 7 mM stock solution (10,000X) of *trans*-ISRIB by adding 1.583 ml of sterile DMSO to the vial and vortexing until fully dissolved. The *trans*-ISRIB solution may be diluted in cell culture media to a final concentration of 700 nM.
4. The Polyamines Supplement Mix is provided as a 1,000X concentrated stock solution in water and may be added directly to media.
5. Upon addition of all reagents, sterile filtering the final media formulation is recommended prior to use.

NOTE: Concentrated stock solutions may be stored at -20°C for up to one month, avoiding multiple freeze-thaw cycles. Sterile filtration may be required upon dilution in media.

References

1. Chen, Y., Tristan, C.A., Chen, L., *et al.* A versatile polypharmacology platform promotes cytoprotection and viability of human pluripotent and differentiated cells. *Nat. Methods* **18**, 528-541 (2021).
2. Ryu, S., Weber, C., Chu, P.-H., *et al.* Stress-free cell aggregation by using the CEPT cocktail enhances embryoid body and organoid fitness. *Biofabrication* **16**, 015016 (2024).

NOTES

Warranty and Limitation of Remedy

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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