



Stem Cell-derived Neuron Maturation Reagent Kit

Item No. 44767

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GENERAL INFORMATION

Materials Supplied

Item No.	Item Name	Quantity/Size	Storage
19403	GSK2879552	1 vial/1 mg	-20°C
16175	EPZ5676	1 vial/1 mg	-20°C
14581	NMDA	1 vial/1 mg	-20°C
21479	(±)-BAY-K-8644	1 vial/1 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, when combined with an appropriate cell culture media, enhance maturation of immature cortical neurons derived from human pluripotent stem cells.¹ Neural organoids, spinal motoneurons, and non-neuronal lineages have also been shown to respond to this cocktail with enhanced maturation.

Each component in this kit is provided separately, and instructions are included to reconstitute these reagents for direct dilution into cell culture media. The kit is intended to supplement up to 1.5 L of culture media when using the indicated concentrations but provides the flexibility to optimize culture conditions to user's specifications. Prior to use, reagents must be stored as indicated at -20°C.

PREPARATION

Reagent Preparation

Preparation of Individual Stock Solutions

1. Prepare a 10 mM (10,000X) stock solution of GSK2879552 by adding 274 μ l of sterile DMSO to the vial and vortexing until fully dissolved. The GSK2879552 solution may be diluted in cell culture media to a final concentration of 1 μ M.
2. Prepare a 10 mM (10,000X) stock solution of EPZ5676 by adding 178 μ l of sterile DMSO to the vial and vortexing until fully dissolved. The EPZ5676 solution may be diluted in cell culture media to a final concentration of 1 μ M.
3. Prepare a 10 mM (10,000X) stock solution of NMDA by adding 680 μ l of sterile DMSO to the vial and vortexing until fully dissolved. The NMDA solution may be diluted in cell culture media to a final concentration of 1 μ M.
4. Prepare a 10 mM (10,000X) stock solution of ($\pm$)-BAY-K-8644 by adding 281 μ l of sterile DMSO to the vial and vortexing until fully dissolved. The ($\pm$)-BAY-K-8644 solution may be diluted in cell culture media to a final concentration of 1 μ M.
5. Combination of all the above factors in cell culture media at the recommended final dilutions results in media with a residual DMSO concentration of 0.04%. 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.

RESOURCES

Reference

1. Hergenreder, E., Minotti, A.P., Zorina, Y., *et al.* Combined small-molecule treatment accelerates maturation of human pluripotent stem cell-derived neurons. *Nat. Biotechnol.* **42**, 1515-1525 (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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