Hepatocyte Differentiation Reagent Kit

Item No. 44737

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GENERAL INFORMATION

Materials Supplied

Item No.	Item Name	Quantity/Size	Storage
13122	CHIR99021	1 vial/5 mg	-20°C
9001799	A 83-01	1 vial/1 mg	-20°C
13121	Sodium Butyrate	1 vial/1 mg	RT
18415	BRD-K4477	1 vial/10 mg	-20°C
21804	BRD-6125	1 vial/10 mg	-20°C
11015	Dexamethasone	1 vial/1 mg	-20°C
20739	Hydrocortisone	1 vial/25 mg	RT

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
2. Sterile cell culture-grade water

INTRODUCTION

Description

The components of this kit, when combined with appropriate cell culture media, enable differentiation of human pluripotent stem cells into hepatocytes in cell culture.[1] These reagents are used in combination and serially, and some optimization may be required in each lab.

Each component in this kit is provided separately, and instructions are included to reconstitute these reagents for direct dilution into cell culture media. 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 indicated at -20°C.

PREPARATION

Reagent Preparation

Preparation of Individual Stock Solutions

1. Prepare a 15 mM (5,000X) stock solution of CHIR99021 by adding 716 µl of sterile DMSO to the vial, vortexing, and holding at room temperature until clear. This CHIR99021 solution may be diluted in cell culture media to a final concentration of 3 µM.
2. Prepare a 2.5 mM (5,000X) stock solution of A 83-01 by adding 949 µl of sterile DMSO to the vial and vortexing until fully dissolved. Warming to 37°C may aid in dissolution. This A 83-01 solution may be diluted in cell culture media to a final concentration of 0.5 µM.
3. Prepare a 1.25 mM (5,000X) stock solution of sodium butyrate by adding 2 ml of sterile pure water to the vial and vortexing until fully dissolved, then further dilute this stock in water, to a total volume of 7.3 ml. This sodium butyrate solution may be diluted in cell culture media to a final concentration of 0.25 µM.
4. Prepare a 75 mM (5,000X) stock solution of BRD-K4477 by adding 472 µl of sterile DMSO to the vial and vortexing until fully dissolved. This BRD-K4477 solution may be diluted in cell culture media to a final concentration of 15 µM.

5. Prepare a 75 mM (5,000X) stock solution of BRD-6125 by adding 343 µl of sterile DMSO to the vial and vortexing until fully dissolved. This BRD-6125 solution may be diluted in cell culture media to a final concentration of 15 µM.
6. Prepare a 0.5 mM (5,000X) stock solution of dexamethasone by adding 5.1 ml of sterile DMSO to the vial and vortexing until fully dissolved. This dexamethasone solution may be diluted in cell culture media to a final concentration of 0.1 µM.
7. Prepare a 50 mM (5,000X) stock solution of hydrocortisone by adding 1.4 ml of sterile DMSO to the vial and vortexing until fully dissolved. This hydrocortisone solution may be diluted in cell culture media to a final concentration of 10 µM.

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

References

1. Du, C., Feng, Y., Qiu, D., *et al.* Highly efficient and expedited hepatic differentiation from human pluripotent stem cells by pure small-molecule cocktails. *Stem Cell Reseach & Therapy* **9**, 58 (2018).

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.