BM-Cyclin

Introduction

Mycoplasmas are the smallest prokaryotic microorganism, only 0.1-0.3 μm in size. Due to their small size, mycoplasmas can penetrate rated filters (0.22~0.45 μm). Mycoplasma contamination remains a major problem in cell culture. Mycoplasmas can alter the DNA, RNA, and protein synthesis of culture cells, but they may not noticeably affect cell growth rates in many cases. Therefore, it is difficult to discover mycoplasma contamination with the naked eye. And it is a must to detect mycoplasma contamination routinely for laboratories that use cell culture frequently.

BM-Cyclin consists of tiamulin fumarate and minocycline hydrochloride, two antibiotics that both prevent protein synthesis. BM-Cyclin can inhibit and eliminate many types of mycoplasma contamination in cell culture, such as *Mycoplasma orale*、*Mycoplasma arginine,* and *Mycoplasma hyorhinis*, without marked cytotoxic side effects. Meanwhile, BM-Cyclin is also effective against some common bacteria.

Components and Storage

Components	C7201-7.5 mg	C7201-37.5 mg
BM-Cyclin-1	5 mg	25 mg
BM-Cyclin-2	2.5 mg	12.5 mg

Store the compounds at -20°C, stable for 3 years; store the stock solutions at -20°C, stable for 6 months.

Protocol

1. Dissolve 5 mg BM-Cyclin-1 and 2.5 mg BM-Cyclin-2 in 2 mL sterile PBS (or sterile ddH_2O), respectively. These are 250x concentrated stock solutions. The concentration of BM-Cyclin-1 stock solution is 2.5 mg/mL, and the concentration of BM-Cyclin-2 stock solution is 1.25 mg/mL

***Note:** The working concentration of BM-Cyclin-1 solution is 10 μg/mL, and the working concentration of BM-Cyclin-2 solution is 5 μg/mL. These working concentrations do not affect the growth of most cells, but it is better to use lower working concentration for some sensitive cell lines.

2. Remove the culture medium, add new medium containing BM-Cyclin-1 stock solution (final concentration of BM-Cyclin-1 is 10 μg/mL), and culture for 3 days.

3. Remove the culture medium, add new medium containing BM-Cyclin-2 stock solution (final concentration of

BM-Cyclin-2 is 5 μg/mL), and culture for 4 days.

4. Steps 2-3 as a cycle. Repeat this cycle, treatment with BM-Cyclin for 2 cycles altogether.
5. After 2 cycles, check for mycoplasma contamination with DNA fluorescent stains such as DAPI (Catalog Number: C3362) and Hoechst 33342 (Catalog Number: A3472).

***Note:** DAPI and Hoechst 33342 are not provided in this kit. If needed, purchase separately with Catalog Number.

Note

1. Please use the BM-Cyclin-1 and BM-Cyclin-2 respectively. Do not use both of them together.
2. It is not recommended to use this product together with other antibiotics.
3. If mycoplasma contamination is not completely disappeared after treatment with 2 cycles, it is suggested to improve the working concentration and treat with another cycle.
4. For some sensitive cell lines, reduce the working concentration and add the treatment cycles, for example, 3 cycles.
5. Aliquot the stock solution into small volumes to avoid repeated freeze-thaw cycles.
6. For research use only. Not to be used in clinical diagnostic or clinical trials.
7. For your safety and health, please wear lab coats and gloves during the experiment.

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