MycoRAZOR®

No Chance for Mycoplasmas

For ordering information and SDS see www.biontex.com

Product	Order No.	Size
MycoRAZOR®	M040-100	100 ml

Shipping: Ice pack

Storage: ≤ –15°C; protected from light

Stability: Best before: see label

Use: Only for research purposes *in vitro*, not intended for human or animal diagnostic, therapeutic or other clinical uses.

MycoRAZOR® is an outstanding effective antibiotic mixture against mycoplasma. It is active at low concentrations and against a large variety of mycoplasma. MycoRAZOR® acts on the protein synthesis mechanism by interfering with the ribosome translation of the mycoplasmas as well as with their transcription.

The product is suitable for cell cultures and primary cells which are infected by mycoplasma and for the decontamination of primary material.

Specification

Application	Removes mycoplasmas from contaminated cell cultures
Formulation	Antibiotic mixture in PBS
Assays	Approx. 200 applications (T25) following the manual
Sterility	Tested

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1. General Remarks

The contamination of cell cultures by mycoplasma remains one of the major problems in biological research. Many mycoplasma contaminations occur due to the use of animal products like sera or trypsin. Another possible source of contamination of the cell culture is the laboratory personnel itself or cross contamination.

In order to protect you against mycoplasma effectively, a routine examination of the cell culture and removal of the mycoplasma is necessary. The Biontex products MycoSPY® or MycoSPY® Master Mix (detection) and MycoRAZOR® (removal) are ideal for these tasks. Treating cell cultures with antibiotics to combat mycoplasma can affect cell growth and vitality. Therefore, use only a subset of the available cells for such treatment.

2. User Protocol

2.1 Standard Concentrations

The product MycoRAZOR® is supplied in a concentration of 0.5 mg/ml. The amount of MycoRAZOR® added should be $^1/_{25}$, $^1/_{33}$ or $^1/_{50}$ of the complete amount of medium in the cell culture flask, giving a working concentration of 20, ca. 15 and 10 µg/ml. Ideally, the treatment is done simultaneously with these three concentrations.

2.2 Application Proposal

Example for simultaneous MycoRAZOR® usage with $^1/_{25}$, $^1/_{33}$ and $^1/_{50}$ dilution:

Culture flask T25	Flask 1	Flask 2	Flask 3
Medium amount	5 ml	5 ml	5 ml
MycoRAZOR®	200 µl ($^1/_{25}$)	150 µl ($^1/_{33}$)	100 µl ($^1/_{50}$)

1. Cultivate cells in three cell culture vessels, as usual, however, in a medium with a higher FBS concentration (20%), without antibiotics, and with a slightly higher cell density (at the time of sowing) for a period of 14 days in the presence of MycoRAZOR® with a concentration of 1/50 (10µg/ml), 1/33 (ca. 15µg/ml) and 1/25 (20µg/ml).
2. Switch the medium for fresh (with same composition) every 2-3 days. If necessary, subcultivate the cells. Always add MycoRAZOR® fresh to the medium. Don't use with MycoRAZOR® prefabricated and stored medium.
3. Cultivate the cells for another 14 days under the same conditions, but without MycoRAZOR®. Even if the cells appeared to be in good health during the treatment, the cells might go into crisis thereafter. The cause of this is assumed to be reduced activity of the mitochondria.
4. Expand cell culture that have been treated with the highest MycoRAZOR® concentration and still have sufficient vitality and test for Mycoplasma with a sensitive method (e.g. MycoSPY®or MycoSPY® Master Mix).

2.3 Explanatory Notes

1. In case of failure of the treatment the most likely reason is resistance of the mycoplasmas against the antibiotics. In rare cases the mycoplasmas also can regrowth after a while. Therefore you should test the treated cell culture regularly for mycoplasma especially several weeks after treatment (e.g. with MycoSPY®or MycoSPY® Master Mix). Anyway, we recommend this for all cultures in your laboratory.
2. Some cell lines produce their own growth factors. Their cultivation proposal provides only for a partial change of the medium. In these cases, the cultivation proposal should be followed. For the non-changed portion of the medium, half of the contained MycoRAZOR® is assumed to have been degraded and must be replaced accordingly.
3. It is important to check that mycoplasmas have been completely eliminated to prevent the establishment of resistance.
4. The animal products used in cell culture are primary sources of mycoplasma contamination. To avoid this risk, use only fetal bovine serum (FBS) and trypsin that are guaranteed mycoplasma free.
5. Mycoplasmas belong to the class of *Mollicutes* and thus lack cell walls; they are resistant to many antibiotics that attack cell wall synthesis. The user is thus an important source of contamination in routine use of this type of antibiotic (e.g. Pen/Strep) for cell culture. In this case, non-sterile working conditions go unnoticed, as the addition of antibiotics prevents the growth of most bacteria – and thus macroscopic effects – while allowing mycoplasmas to multiply unhindered.
6. In addition, cross-contamination from another cell culture is possible. For this reason always test all cultured cells and replace any potentially contaminated cell culture material (medium, FBS, trypsin, buffer).

3. Miscellaneous

3.1 Important Information

This reagent is developed and sold for research purposes and *in vitro* use only. It is not intended for human or animal therapeutic or diagnostic purposes.

MycoRAZOR® is a registered trademark of Biontex Laboratories GmbH.

3.2 Warranty

Biontex guarantees the performance of this product until the date of expiry printed on the label when stored and used in accordance with the information given in this manual. If you are not satisfied with the performance of the product please contact Biontex Laboratories GmbH.

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