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# Mycoplasma Removal Agent

## MC-210

| Catalogue Number | Quantity            |
|------------------|---------------------|
| 88101-2          | 5 mL(50 $\mu$ g/mL) |

MC-210 is very effective at removing mycoplasma from infected cell cultures. It shows a strong anti-mycoplasma activity against many types of mycoplasma including *Mycoplasma orale*, *Mycoplasma arginini*, *Mycoplasma hyorhinis* and *Acholeplasma laidlawii*.

MC-210 is 4-oxo-quinoline-3-carboxylic acid derivative solution.

### [Procedure]

1. Add MC-210 to cell cultures contaminated by mycoplasma at a concentration of 0.5  $\mu$  g/mL and incubate for a week.
2. For media replacement or culture transfer (passage), use a medium containing MC-210 at this same concentration.
3. Transfer the cell cultures several times without MC-210 and confirm that re-growth of the contaminating mycoplasma has not occurred.

### [Caution]

1. MC-210 is a research reagent and must be used only as a mycoplasma removal agent in cell culture. MC-210 is a synthetic molecule. Good laboratory practice should be observed when handling the products.
2. The recommended concentration for use is 0.5  $\mu$  g/mL. Concentration may be raised up to 1  $\mu$  g/mL only when the recommended concentration is ineffective in removing the mycoplasma.
3. The cytotoxicity of MC-210 is low and cell toxicity is rare when used the recommended concentration. For specific function of any cell, however, it is recommended that the retention of desired cellular characteristics be confirmed after treatment.

### [Storage]

MC-210 is stable at room temperature. Protect from light to prevent decomposition.

## [Sample Data]

Note that the level of infection, cell type and mycoplasma strains may influence specific result. Each researcher should use the sample data as a guide from which to determine the effective MC-210 concentration needed with their specific cell line and mycoplasma strain.

### 1.Data on mycoplasma removal effect- spontaneous infection.

| Cell Type               | MC-210<br>Concentration<br>( $\mu$ g/mL) | Mycoplasma status at stage of Culture(days) |   |    |    |
|-------------------------|------------------------------------------|---------------------------------------------|---|----|----|
|                         |                                          | 0                                           | 7 | 14 | 21 |
| Human-derived<br>cell-A | 0.39                                     | +                                           | - | -  | -  |
|                         | 0.20                                     | +                                           | - | -  | -  |
|                         | 0.10                                     | +                                           | - | +  | +  |
|                         | 0.00                                     | +                                           | + | +  | +  |
| Human-derived<br>cell-B | 0.78                                     | +                                           | - | -  | -  |
|                         | 0.39                                     | +                                           | - | -  | -  |
|                         | 0.20                                     | +                                           | - | -  | -  |
|                         | 0.10                                     | +                                           | + | +  | +  |
|                         | 0.00                                     | +                                           | + | +  | +  |

+ : Mycoplasma positive

- : Mycoplasma negative

Duration treated with MC-210: 7 days

### 2. Efficacy comparison of MC-210 and pharmaceuticals on the market.

| Mycoplasma Strains | MC-210  |       | Tiamulin      |      | Minocycline   |      |
|--------------------|---------|-------|---------------|------|---------------|------|
|                    | MIC*    | MMC** | MIC           | MMC  | MIC           | MMC  |
| M. orale CH-19299  | 0.05    | 0.10  | 0.0031        | 3.13 | 0.05          | 25.0 |
| M. arginini G-230  | 0.10    | 0.20  | 0.0063        | 12.5 | 0.20          | >100 |
| M. hyorhinae BST-7 | 0.05    | 0.10  | 0.0031        | 0.39 | 0.0031        | 0.39 |
| A. laidlawii PG-8  | 0.00125 | 0.025 | 0.05          | >100 | 0.05          | >100 |
| MMC/MIC            | 2       |       | 128----->2048 |      | 512----->2048 |      |

MIC\*: Minimum inhibitory concentration( $\mu$  g/mL)

MMC\*\*: Minimum mycoplasma-cidal concentration ( $\mu$  g/mL)

3. MIC of MC-210 to other mycoplasma ( $\mu$  g/mL)

| Species             | MIC    |
|---------------------|--------|
| M. fermentans PG-18 | 0.0125 |
| M. salivarium PG-20 | 0.1    |
| M.hominis PG-21     | 0.1    |
| M. buccale CH-20247 | 0.025  |



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