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Test Report

Efficacy of a New JM Nanocomposite Material in Inhibiting *Mycobacterium tuberculosis*

Test Reagent

New JM nanocomposite material

Project Implementation Unit

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Testing Laboratory

Tuberculosis Laboratory, Sijhih Cathay General Hospital

Project Personnel

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Test Results

1. The following images of the 10-fold dilution experiment are indicative of the overall test results. The white spots in the control group image are *Mycobacterium tuberculosis* colonies in the 7H11 culture medium. The experimental group image clearly shows that the number of bacterial colonies in the experimental group was vastly reduced, indicating that the JM nanomaterial effectively inhibited *Mycobacterium tuberculosis*.



2. Results of the random six areas are shown in the following table:

Concentration	Control group	Experimental group	Inhibitory efficacy
Original	>1000/cm ²	>1000/cm ²	Could not be calculated
10-fold dilution	>1000/cm ²	>1000/cm ²	Could not be calculated
10 ² -fold dilution	>1000/cm ²	>1000/cm ²	Could not be calculated
10 ³ -fold dilution	105.3/cm ²	62.7/cm ²	40.5%
10 ⁴ -fold dilution	19.8/cm ²	7.7/cm ²	61.1%
10 ⁵ -fold dilution	2.6/cm ²	0.5/cm ²	80.8%

3. Calculation of the inhibitory efficacy of the JM nanomaterial on *Mycobacterium tuberculosis*: Substituting the results of the 10⁵-fold dilution experiment (optimal) into the formula obtained an inhibitory efficacy of 80.8%.