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細菌数測定法における誤差分布の推定

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Estimation of Error Distributions in Conventional Plate Counting and Total Direct Counting

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Summary

Total direct counting by fluorescence microscopy is rapid, simple and widely used in microbiological studies, especially in environmental microbiological research. However, the accuracy of the results may decrease in total direct counting if the number of observed microscopic fields is too small. In this study, error distributions in conventional plate counting and total direct counting were estimated by statistical analyses. Our results clarified that both methods have an error of 10 percent even under ideal conditions. Accurate results can be obtained in total direct counting when the number of cells in each microscopic field is 10～100 and more than 14 microscopic fields are observed.

Key words

Microbiological Monitoring, Error, Plate counting, Total direct counting