

## Executive Summary

### Introduction

Current methods for drinking water quality control involve analysis of a small sample volume (usually 100 ml). The probability of detecting indicator organisms with this sampling method is rather low. In addition, the majority of cells in a drinking water distribution system are found in biofilms. A protocol for metabolically active indicator organism *E. coli* in water concentrates and in biofilm is presented in this report.

### Importance

The presence of intestinal pathogens indicate fecal contamination of drinking water. Such bacteria are known to enter a so-called VNBC or ANBC state and are thus not detectable using traditional culture methods. Here we present alternative protocols for detecting viable *E. coli*. The protocol can be applied for analysis of water concentrates and biofilm. The advantages of such alternative activity measurements are not only detection of non-culturable organisms but also their rapidity.

### Approach

The results obtained by using a commercial kit, ScanVit-E.coli and DVC-FISH method were compared.

### Results

Both methods can be recommended for the routine analysis of drinking water and wastewater however the choice of the method will depend on the amount of cells anticipated in the sample. When the sample contains a small number of cells, ScanVit-E.coli showed more precise results whereas for larger cell concentration DVC is better suited.

DVC method was found to be more suitable for drinking water network biofilm analysis.

### More information

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