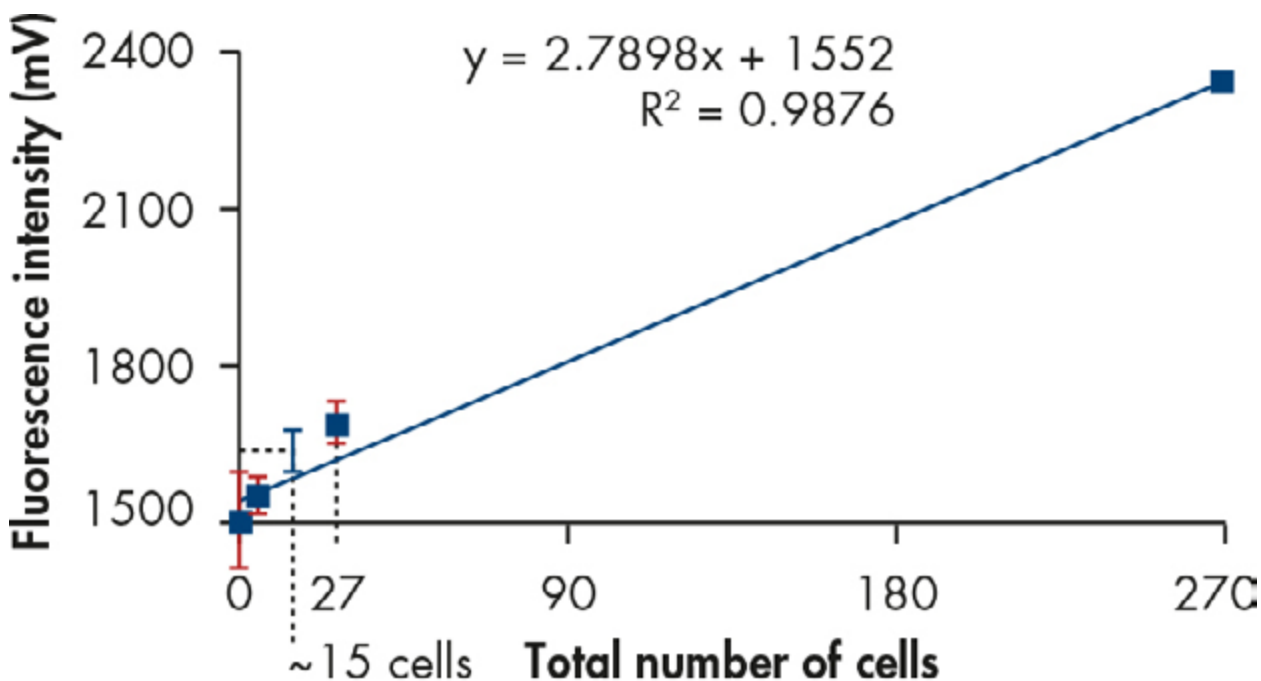




Viable E. Coli Cell Test

The resazurin system measures the toxic effects of unknown compounds by assessing the metabolic activity of living cells. Viable cells take up resazurin and reduce it internally to resorufin. This fluorescent compound and the reduction-oxidation reaction can be monitored. Only viable cells can reduce resazurin, therefore any change in fluorescence intensity is due to the presence of viable cells.

A dilution series of *Escherichia coli* K12 cells was prepared, resazurin (Sigma- Aldrich) was added, and the experiment conducted according to the manufacturer's instructions. Fluorescence was measured in a 1 cm quartz cuvette using the ESElog with cuvette holder (excitation 550 nm, emission 600 nm). A total of 27 cells in a total volume of 300 μ l were detected. Extrapolation of the data to the $\pm 3x$ standard deviation show that the limit of detection was around 15 cells in 300 μ l and this sample can be distinguished from the blank (resazurin containing buffer without cells).



Efficient detection of viable cells. Error bars are shown in red. The blue error bar represents the extrapolated data of detectable cells. The total volume was 300 μ l and a total of 27 cells in 300 μ l were measured. A total of 15 cells in 300 μ l can be detected (extrapolated).