

ENTEROCOCCUS FAECALIS QUANTITATIVE DNA STANDARD FOR WATER TESTING

Enterococcus faecalis is a gram-positive cocci commonly isolated from the intestines of humans and animals. The presence of *E. faecalis* in water is one of the most widely accepted indicators of fecal pollution and the potential presence of enteric pathogens. For this reason, drinking & recreational water are routinely tested for the presence of Enterococci using *E. faecalis* as a control organism. EPA Method 1611 describes a qPCR-based method for faster sampling turn-around times when performing routine analysis of ambient marine and fresh recreational water quality.

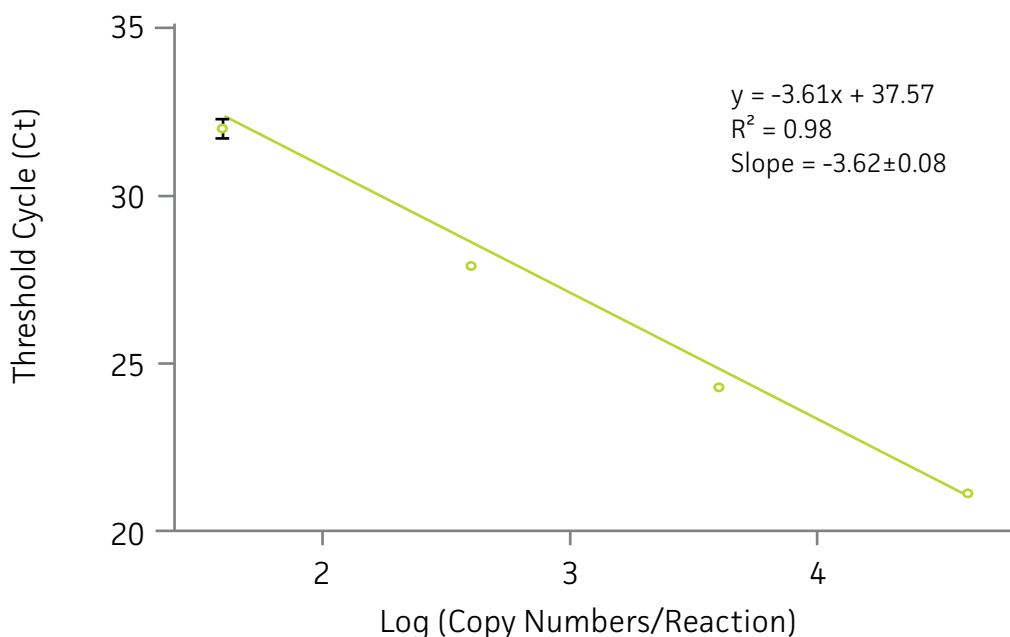
EPA Method 1611 describes a procedure that measures the large subunit ribosomal RNA (lsrRNA, 23S rRNA) target sequences from all known species of Enterococci in water. Purified, RNA-free, quantified, and characterized *Enterococcus faecalis* strain ATCC® 29212™ genomic DNA is recommended as the standard for this method. The *Enterococcus faecalis* Quantitative DNA Standard (ATCC® 29212Q-FZ™) was developed to meet the unique needs of this qPCR-based Method by providing a set of 3 DNA dilutions at known concentrations.

Kit Components

ATCC® 29212Q-FZ™ is provided as a kit comprised of three vials (100 µL each), containing dilutions 1, 2, and 3 which represent, respectively, 40,000, 4,000, and 400 Target Sequence Concentrations per 5 µL of frozen DNA standard. The *Enterococcus faecalis* Quantitative DNA Standard is useful for establishing calibration curves to measure the performance of assay platforms used in nucleic acid-based testing.



Enterococcus faecalis Quantitative DNA Standard



Analysis of ATCC® 29212Q-FZ™

DNA standard dilutions were analyzed on the Applied Biosystems® 7500 DX Real-Time PCR platform using TaqMan® Environmental Master Mix 2.0 (Life Technologies, Cat. No. 4396838); threshold was adjusted to 0.03. Copy numbers determined for the current lot of ATCC® 29212Q-FZ™ are shown in the figures provided. DNA copy number may vary depending on the quantitation method used.

Dilution No.	TSC/ Reaction	Ct Value
1	40000	21.138 ± 0.120
2	4000	24.328 ± 0.086
3	400	27.910 ± 0.110
4*	40	32.006 ± 0.282

*Please note that this product does not include Dilution 4 listed in the table and graph above. For all endusers following EPA water testing methods that specify the use of a dilution containing 40 TSC/5 µL, such as EPA Method 1611, it is recommended that this dilution be prepared at each enduser's laboratory facility prior to use by diluting either Dilutions 1, 2 or 3 to achieve 40 TSC/5 µL. Long-term storage of dilutions at or below 40 TSC/5 µL is not advised due to the unstable nature of low-concentration preparations.

To learn more about water testing reference standards, please visit us online at www.atcc.org/waterQC.

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