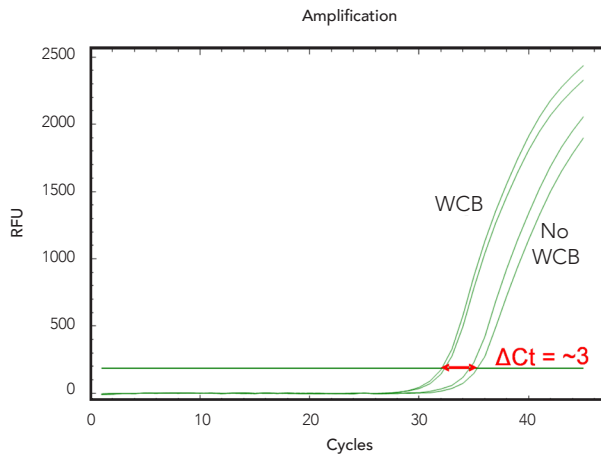


Zymo Environ™ Water RNA Kit

- Enrich total RNA from large volumes (≤ 5 ml) and transform into small sample pellets for easy processing.
- Inactivates infectious agents and pathogens (viruses, bacteria, fungi, and parasites) for safe handling using DNA/RNA Shield™.
- Remove PCR inhibitors in one spin and elute concentrated RNA in ≥ 6 μ l. Ready for any downstream application including RT-qPCR, RTddPCR, NGS.

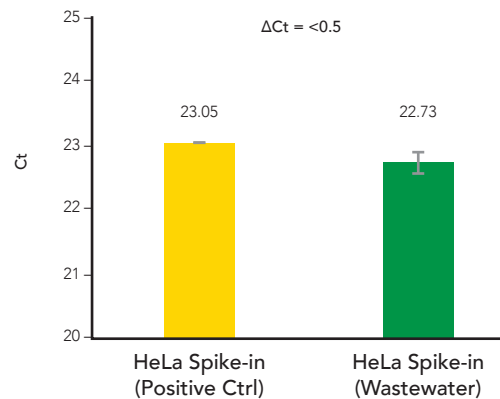


Increase Viral Recovery by 8-fold

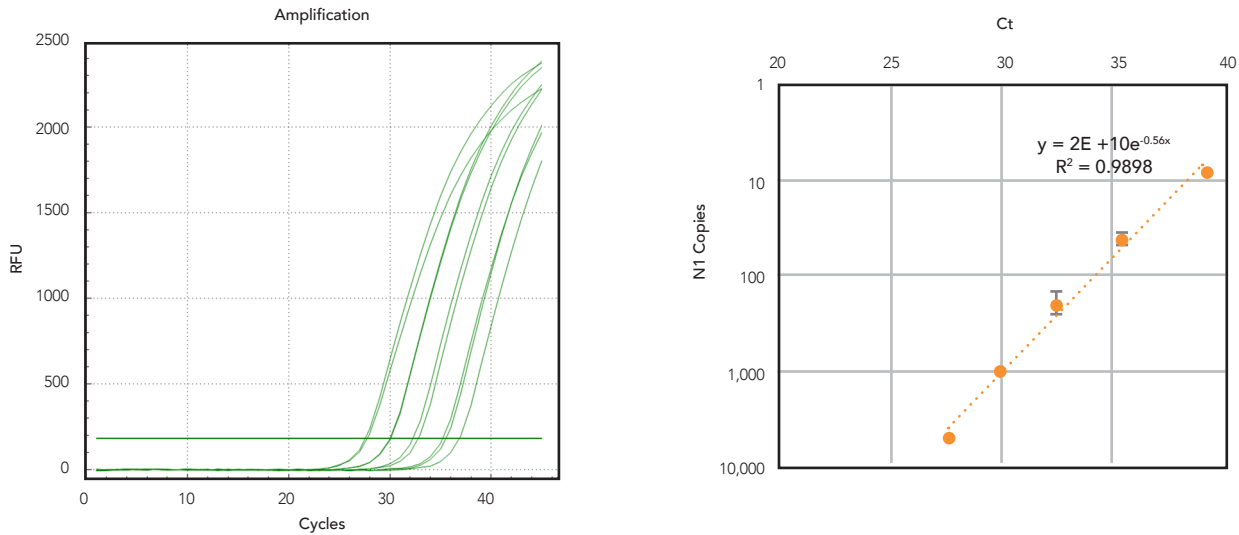
The Zymo Environ™ Water RNA Kit includes Water Concentrating Buffer™ (WCB). 5 ml of SARS-CoV-2 positive wastewater was processed with and without WCB (n=2). RT-qPCR showed the addition of WCB shifted average Ct values earlier by ~3 (an 8-fold increase in viral recovery).

Inhibitor-Free RNA

Extracted Wastewater RNA is free of PCR Inhibitors. 50K HeLa cells were spiked into DNA/RNA Shield™ (positive extraction control) and into wastewater RNA was extracted (n=2) and RT-qPCR (Quasar 670) analysis showed the ΔCt is < 0.5 , indicating the extraction system effectively removes inhibitors in wastewater. Samples were compared to a RT-qPCR plate positive control which amplified at 23.01 Ct.



Detect Down to 8 Viral Copies



Improved Limit of Detection (LOD). SARS-CoV-2 RNA was serially diluted from 5000 to 8 viral copies and spiked into SARS-CoV-2-negative proxy wastewater. RNA was extracted (n=2) using the Zymo Environ™ Water RNA Kit. RT-qPCR targeting the SARS-CoV-2 N1 gene showed the dilution is linear ($R^2 = 0.9898$) and the workflow was able to achieve an LOD of 8-40 copies.

Protocol Overview

1. Add 70 μ l **Water Concentrating Buffer™** for every 1 ml wastewater, vortex.
2. Pellet and remove supernatant.
3. Resuspend pellet in **DNA/RNA Shield™**.
4. Remove inhibitors with a single spin and purify ultra-pure concentrated RNA.

Product	Cat. No.	Size
Zymo Environ™ Water RNA Kit	R2042	50 prep
Quick SARS-CoV-2 rRT-PCR Kit	R3011	100 rxns
	R3011-1K	1,000 rxns
	R3011-10K	10,000 rxns
Quick SARS-CoV-2 Multiplex Kit	R3013	100 rxns
	R3013-1K	1,000 rxns
	R3013-10K	10,000 rxns