

# QX200™ Droplet Digital™ PCR System for the Classroom



## Next-Generation PCR Technology

Droplet Digital PCR (ddPCR™) is a unique digital PCR technology that provides sensitive detection and absolute quantification of target DNA or RNA molecules without the use of standard curves.

Simple and reliable, Droplet Digital PCR technology has enabled research breakthroughs in cancer biomarker discovery, infectious diseases, genomic alterations, and gene expression. Its use is increasing rapidly in the areas of pathogen detection, food testing, and environmental and wastewater monitoring.

Through its Explorer program, Bio-Rad™ offers products at a discount to educators for use in teaching laboratories. In this way, students learn modern biotechnology techniques like Droplet Digital PCR using the same equipment they might someday use in research and diagnostics labs.

## ddPCR Technology and Workflow

Droplet Digital PCR makes PCR “digital” through sample partitioning and the subsequent statistical analysis of target detection across the partitions.

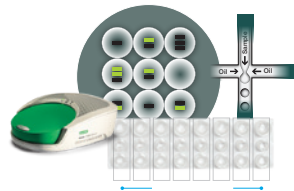
The Bio-Rad QX200 System consists of two instruments, the QX200 Droplet Generator\* and the QX200 Droplet Reader, and their associated consumables. The QX200 Droplet Generator is used to partition ddPCR reaction mix into thousands of nanoliter-sized droplets. After PCR in a thermal cycler, droplets from each sample are analyzed individually on the QX200 Droplet Reader. PCR-positive and PCR-negative droplets are individually counted to provide absolute quantification of target DNA in digital form. Alternatively, amplified products can be extracted from droplets following PCR for downstream applications, such as sequencing or cloning.

An automated QX200 AutoDG™ Droplet Generator is also available. Please contact us for ordering details.

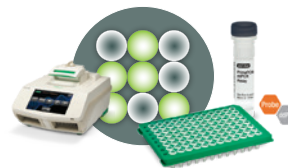
Visit [bio-rad.com/ExplorerContactUs](http://bio-rad.com/ExplorerContactUs) to request more information.



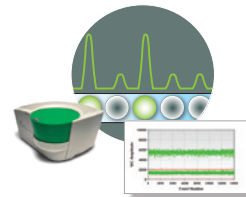
1 Prepare ddPCR reaction mix



2 Generate droplets



3 Perform PCR to amplify targets in each droplet



4 Read and analyze results

## Droplet Digital PCR Resources

Visit [bio-rad.com/ddPCR](https://www.bio-rad.com/ddPCR) for videos, technical reports, published findings, and other resources describing Bio-Rad's unique Droplet Digital PCR technology and the QX200 ddPCR System.

### Ordering Information (Educator Discount)

The ordering information listed here is for purchases for educational use only. Visit [bio-rad.com/ddPCR](https://www.bio-rad.com/ddPCR) for information on ordering for research use.

Catalog #	Description	Catalog #	Description
<b>QX200 Droplet Digital PCR System</b>			
1864001EDU	<b>QX200 Droplet Digital PCR System</b> , includes droplet generator, droplet reader, computer, software, associated component consumables	1863026EDU	<b>ddPCR Supermix for Probes</b> , 2 ml (2 x 1 ml), 200 x 20 µl reactions, 2x supermix
1864002EDU	<b>QX200 Droplet Generator</b> , includes droplet generator, 1 pkg of 24 DG8 Cartridges, 1 pkg of 24 DG8 Gaskets, 2 cartridge holders, 1 power cord	1863010EDU	<b>ddPCR Supermix for Probes</b> , 5 ml (5 x 1 ml), 500 x 20 µl reactions, 2x supermix
1864003EDU	<b>QX200 Droplet Reader</b> , includes droplet reader, ddPCR manual, 2 plate holders, USB cable, power cord	1863027EDU	<b>ddPCR Supermix for Probes</b> , 25 ml (5 x 5 ml), 2,500 x 20 µl reactions, 2x supermix
1864007EDU	<b>DG8 Cartridges and Gaskets</b> , includes 5 pkg of 24 DG8 Cartridges, 5 pkg of 24 DG8 Gaskets	1863028EDU	<b>ddPCR Supermix for Probes</b> , 50 ml (10 x 5 ml), 5,000 x 20 µl reactions, 2x supermix
1864008EDU	<b>DG8 Cartridges for QX200 Droplet Generator</b> , 1 pkg of 24 cartridges	1863023EDU	<b>ddPCR Supermix for Probes (No dUTP)</b> , 2 ml (2 x 1 ml), 200 x 20 µl reactions, 2x supermix
1863009EDU	<b>DG8 Gaskets for QX200 Droplet Generator</b> , 1 pkg of 24 gaskets	1863024EDU	<b>ddPCR Supermix for Probes (No dUTP)</b> , 5 ml (5 x 1 ml), 500 x 20 µl reactions, 2x supermix
1863005EDU	<b>Droplet Generation Oil for Probes</b> , 70 ml (10 x 7 ml)	1863025EDU	<b>ddPCR Supermix for Probes (No dUTP)</b> , 25 ml (5 x 5 ml), 2,500 x 20 µl reactions, 2x supermix
1864005EDU	<b>QX200 Droplet Generation Oil for EvaGreen®</b> , 14 ml (2 x 7 ml)	1864021EDU	<b>One-Step RT-ddPCR Advanced Kit for Probes</b> , 2 ml (2 x 1 ml), 200 x 20 µl reactions
1864006EDU	<b>QX200 Droplet Generation Oil for EvaGreen®</b> , 70 ml (10 x 7 ml)	1864022EDU	<b>One-Step RT-ddPCR Advanced Kit for Probes</b> , 5 ml (5 x 1 ml), 500 x 20 µl reactions
1863004EDU	<b>ddPCR Droplet Reader Oil</b> , 2 x 1 L	1864033EDU	<b>QX200 ddPCR EvaGreen® Supermix</b> , 2 ml (2 x 1 ml), 200 x 20 µl reactions, 2x supermix
<b>Thermal Cycler and Plate Sealer</b>			
1851197EDU	<b>C1000 Touch Thermal Cycler with 96-Deep Well Reaction Module</b> , includes C1000 Touch Thermal Cycler chassis, 96-deep well reaction module, USB flash drive	1864034EDU	<b>QX200 ddPCR EvaGreen® Supermix</b> , 5 ml (5 x 1 ml), 500 x 20 µl reactions, 2x supermix
1814000EDU	<b>PX1 PCR Plate Sealer</b> , includes heat sealing instrument, plate support block that holds 96-well and 384-well plates, sealing frame, power cord	1864035EDU	<b>QX200 ddPCR EvaGreen® Supermix</b> , 25 ml (5 x 5 ml), 2,500 x 20 µl reactions, 2x supermix
1814040EDU	<b>PCR Plate Heat Seal</b> , foil, pierceable, 1 pkg of 100, foil seals for use with PX1 PCR Plate Sealer	1864036EDU	<b>QX200 ddPCR EvaGreen® Supermix</b> , 50 ml (10 x 5 ml), 5,000 x 20 µl reactions, 2x supermix
12001925EDU	<b>ddPCR 96-Well Plates</b> , 1 pkg of 25, clear well/clear shell semi-skirted plates	1863052EDU	<b>ddPCR Buffer Control for Probes</b> , 9 ml (2 x 4.5 ml), 2x buffer
<b>ddPCR Kits</b>			
12013743EDU	<b>SARS-CoV-2 ddPCR Kit</b> , 600 tests, includes 2019-nCoV CDC ddPCR Triplex Assay, One-Step RT-ddPCR Supermix, reverse transcriptase, DTT, positive controls and negative controls	1864052EDU	<b>QX200 Buffer Control for EvaGreen®</b> , 9 ml (2 x 4.5 ml), 2x buffer
1863500EDU	<b>ddPCR SMN1 Copy Number Determination Kit</b> , 200 x 20 µl reactions, includes 20x SMN1 assay, positive controls, and ddPCR Supermix for Probes (No dUTP) for copy number determination of the SMN1 gene using the QX200 Droplet Digital PCR System	12005909EDU	<b>ddPCR Multiplex Supermix</b> , 1.2 ml, (2 x 0.6 ml), 200 x 20 µl reactions, 4x supermix
1863503EDU	<b>ddPCR SMN2 Copy Number Determination Kit</b> , 200 x 20 µl reactions, includes 20x SMN2 assay, positive controls, and ddPCR Supermix for Probes (No dUTP) for copy number determination of the SMN2 gene using the QX200 Droplet Digital PCR System	12005910EDU	<b>ddPCR Multiplex Supermix</b> , 3 ml, (5 x 0.6 ml), 500 x 20 µl reactions, 4x supermix
		12005911EDU	<b>ddPCR Multiplex Supermix</b> , 12.5 ml, (5 x 2.5 ml), 2,500 x 20 µl reactions, 4x supermix
		1864037EDU	<b>ddPCR Supermix for Residual DNA Quantification</b> , 2 ml, (2 x 1 ml), 200 x 20 µl reactions, 2x supermix
		1864038EDU	<b>ddPCR Supermix for Residual DNA Quantification</b> , 5 ml, (5 x 1 ml), 500 x 20 µl reactions, 2x supermix
		1864039EDU	<b>ddPCR Supermix for Residual DNA Quantification</b> , 25 ml, (5 x 5 ml), 2,500 x 20 µl reactions, 2x supermix
		1864040EDU	<b>ddPCR Supermix for Residual DNA Quantification</b> , 50 ml, (10 x 5 ml), 5,000 x 20 µl reactions, 2x supermix
		12012171EDU	<b>Dithiothreitol (DTT)</b> , 2 ml (2 x 1 ml)

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