



Seven-Color Multiplexing on the QX700™ Droplet Digital™ PCR (ddPCR™) System*

Expanded Fluorophore Compatibility Boosts Multiplexing Power

Your lab can now run more powerful multiplex ddPCR assays with greater design flexibility. The new ATTO 550 fluorophore joins the previous six (FAM, HEX, ROX, ATTO 590, Cy5, and Cy5.5) to enable true seven-color multiplexing for supporting highly resolved detection across complex biomarker panels. This expanded color palette unlocks new possibilities, including exploratory biomarker research, genetic analysis, and RNA-based biomarker applications. The expanded color range also positions the QX700 ddPCR System as a reliable alternative to qPCR and next-generation sequencing (NGS). Compared to NGS, ddPCR features a simpler workflow, easier data analysis, and higher precision and sensitivity for research applications (Table 1). With ddPCR technology, you get absolute quantification without standard curves, highly sensitive detection of rare mutations down to 0.1% in research samples, and precise measurement of subtle gene-expression changes.

Use the QX700 ddPCR System for the following applications:

- **Oncology research:** measure tumor heterogeneity and investigate low sequence and variant signals to support exploratory cancer research
- **Genetic analysis:** detect genetic variation with high resolution, from point mutations to copy number changes, supporting exploratory genetic variation studies
- **Biomarker research:** quantify nucleic acid targets to support biomarker discovery and exploratory research
- **Therapeutics development:** streamline cell and gene therapy research and biologics exploration with high-sensitivity, multiplexed analysis
- **qPCR to ddPCR assay portability:** adapt your existing qPCR assays for use on the ddPCR platform

Table 1: Relative attributes of ddPCR, qPCR, and NGS. Compared to NGS, ddPCR features a simpler workflow, easier data analysis, and higher precision and sensitivity.

Low ●○○○, Medium ●●○○, High ●●●●

Attribute	ddPCR	qPCR	NGS
Workflow simplicity	●●●●	●●●●	●●○○
Ease of data analysis	●●●●	●●●●	●○○○
Precision and sensitivity	●●●●	●●○○	●●○○
Cost (relative)	\$\$	\$	\$\$\$\$

*For Research Use Only. Not for use in diagnostic procedures.

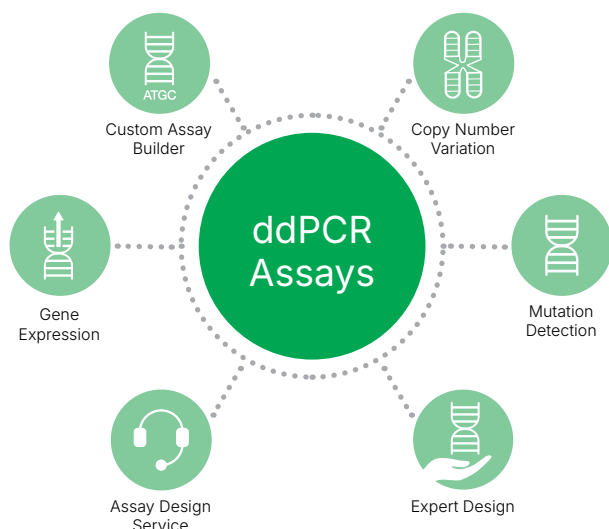


Visit [bio-rad.com/digitalassays](https://www.bio-rad.com/digitalassays) for more information.

A Full Suite of ddPCR Assay Types

Powered by the QX700 ddPCR System

To support these applications, scientists rely on the following ddPCR assay types, all compatible with the QX700 ddPCR System:



- **Copy Number Variation (CNV):** detect even small shifts in copy number without standard curves
- **Mutation Detection (MUT):** identify mutations present at low frequencies in a high background of wild-type DNA
- **Expert Design (EXD):** conduct expert-designed assays optimized for ddPCR to enable detection of mutations, translocations, and multiplex markers in research samples
- **Assay Design Service (ADS):** work directly with Bio-Rad specialists to create custom ddPCR primer, probes, and assays tailored to translocations, mutations, and multiplex panels
- **Gene Expression (GEX):** quantify expression differences below 2-fold and detect low-abundance targets with higher inhibitor tolerance
- **Custom Assay Builder (CUST):** design and order custom, ddPCR-ready primers and probes with full sequence control, built-in bioinformatic compatibility checks, and fast, self-service ordering for users with existing designs

Most assay types (GEX, CNV, CUST, EXD, ADS) are compatible with all seven fluorophores (FAM, HEX, ATTO 550, ROX, ATTO 590, Cy5, and Cy5.5), while MUT assays use FAM, HEX, Cy5, Cy5.5.



QX700 ddPCR EvaGreen® Supermix

The QX700 ddPCR EvaGreen® Supermix supports the detection of double-stranded DNA targets using EvaGreen® assays. It can be used with the QX700 ddPCR Series Systems.



QX700 One-Step RT-ddPCR Kit for Probes

The QX700 One-Step RT-ddPCR Kit for Probes enables the absolute multiplex quantification of target RNA molecules in a one-step format. This product can be used with the QX700 ddPCR Series Systems.

Ordering Information

Catalog #	Description	Catalog #	Description
CNV		MUT	
10042958	ddPCR CNV Assay (FAM), 200 x 20 µL reactions	10042964	ddPCR Mutation Detection Assay (FAM), 200 x 20 µL reactions
10042959	ddPCR CNV Assay (FAM), 1,000 x 20 µL reactions	10042965	ddPCR Mutation Detection Assay (FAM), 1,000 x 20 µL reactions
10042960	ddPCR CNV Assay (FAM), 2,500 x 20 µL reactions	10042966	ddPCR Mutation Detection Assay (FAM), 2,500 x 20 µL reactions
10042961	ddPCR CNV Assay (HEX), 200 x 20 µL reactions	10042967	ddPCR Mutation Detection Assay (HEX), 200 x 20 µL reactions
10042962	ddPCR CNV Assay (HEX), 1,000 x 20 µL reactions	10042968	ddPCR Mutation Detection Assay (HEX), 1,000 x 20 µL reactions
10042963	ddPCR CNV Assay (HEX), 2,500 x 20 µL reactions	10042969	ddPCR Mutation Detection Assay (HEX), 2,500 x 20 µL reactions
12005520	ddPCR CNV Assay (Cy5), 200 x 20 µL reactions	12008220	ddPCR Mutation Detection Assay (Cy5), 200 x 20 µL reactions
12005571	ddPCR CNV Assay (Cy5), 1,000 x 20 µL reactions	12008221	ddPCR Mutation Detection Assay (Cy5), 1,000 x 20 µL reactions
12005572	ddPCR CNV Assay (Cy5), 2,500 x 20 µL reactions	12008222	ddPCR Mutation Detection Assay (Cy5), 2,500 x 20 µL reactions
12005573	ddPCR CNV Assay (Cy5.5), 200 x 20 µL reactions	12008223	ddPCR Mutation Detection Assay (Cy5.5), 200 x 20 µL reactions
12005574	ddPCR CNV Assay (Cy5.5), 1,000 x 20 µL reactions	12008224	ddPCR Mutation Detection Assay (Cy5.5), 1,000 x 20 µL reactions
12005575	ddPCR CNV Assay (Cy5.5), 2,500 x 20 µL reactions	12008225	ddPCR Mutation Detection Assay (Cy5.5), 2,500 x 20 µL reactions
12017373	ddPCR CNV Assay (ROX), 200 x 20 µL reactions	12016622	ddPCR Mutation Detection Assay (ROX), 200 x 20 µL reactions
12017431	ddPCR CNV Assay (ROX), 1,000 x 20 µL reactions	12016623	ddPCR Mutation Detection Assay (ROX), 1,000 x 20 µL reactions
12017424	ddPCR CNV Assay (ROX), 2,500 x 20 µL reactions	12016631	ddPCR Mutation Detection Assay (ROX), 2,500 x 20 µL reactions
12017423	ddPCR CNV Assay (ATTO 590), 200 x 20 µL reactions	12016592	ddPCR Mutation Detection Assay (ATTO 590), 200 x 20 µL reactions
12017422	ddPCR CNV Assay (ATTO 590), 1,000 x 20 µL reactions	12016632	ddPCR Mutation Detection Assay (ATTO 590), 1,000 x 20 µL reactions
12017420	ddPCR CNV Assay (ATTO 590), 2,500 x 20 µL reactions	12016613	ddPCR Mutation Detection Assay (ATTO 590), 2,500 x 20 µL reactions
12025604	ddPCR CNV Assay (ATTO 550), 200 x 20 µL reactions	10049047	ddPCR MUT FAM+HEX Assay, 200 reactions
12025633	ddPCR CNV Assay (ATTO 550), 1,000 x 20 µL reactions	10049048	ddPCR MUT FAM+HEX Assay, 1,000 reactions
12025588	ddPCR CNV Assay (ATTO 550), 2,500 x 20 µL reactions	10049049	ddPCR MUT FAM+HEX Assay, 2,500 reactions
10031240	ddPCR™ CNV Assay, Validated (FAM), 200 x 20 µL reactions	12005579	ddPCR MUT Cy5+Cy5.5 Assay, 200 reactions
10031241	ddPCR™ CNV Assay, Validated (FAM), 1,000 x 20 µL reactions	12005580	ddPCR MUT Cy5+Cy5.5 Assay, 1,000 reactions
10031242	ddPCR™ CNV Assay, Validated (FAM), 2,500 x 20 µL reactions	12005581	ddPCR MUT Cy5+Cy5.5 Assay, 2,500 reactions
10031243	ddPCR™ CNV Assay, Validated (HEX), 200 x 20 µL reactions	12016606	ddPCR MUT ROX+ATTO Assay, 200 reactions
10031244	ddPCR™ CNV Assay, Validated (HEX), 1,000 x 20 µL reactions	12016633	ddPCR MUT ROX+ATTO Assay, 1,000 reactions
10031245	ddPCR™ CNV Assay, Validated (HEX), 2,500 x 20 µL reactions	12016616	ddPCR MUT ROX+ATTO Assay, 2,500 reactions
GEX		Wet-lab validated Assays	
10031252	ddPCR Gene Expression Assay (FAM), 200 x 20 µL reactions	10031240	ddPCR CNV FAM Assay, Validated, 200 reactions
10031253	ddPCR Gene Expression Assay (FAM), 1,000 x 20 µL reactions	10031241	ddPCR CNV FAM Assay, Validated, 1,000 reactions
10031254	ddPCR Gene Expression Assay (FAM), 2,500 x 20 µL reactions	10031242	ddPCR CNV FAM Assay, Validated, 2,500 reactions
10031255	ddPCR Gene Expression Assay (HEX), 200 x 20 µL reactions	10031243	ddPCR CNV HEX Assay, Validated, 200 reactions
10031256	ddPCR Gene Expression Assay (HEX), 1,000 x 20 µL reactions	10031244	ddPCR CNV HEX Assay, Validated, 1,000 reactions
10031257	ddPCR Gene Expression Assay (HEX), 2,500 x 20 µL reactions	10031245	ddPCR CNV HEX Assay, Validated, 2,500 reactions
12005582	ddPCR Gene Expression Assay (Cy5), 200 x 20 µL reactions	10049550	ddPCR MUT FAM+HEX Assay, Validated, 200 reactions
12005583	ddPCR Gene Expression Assay (Cy5), 1,000 x 20 µL reactions	10049551	ddPCR MUT FAM+HEX Assay, Validated, 1,000 reactions
12005584	ddPCR Gene Expression Assay (Cy5), 2,500 x 20 µL reactions	10049552	ddPCR MUT FAM+HEX Assay, Validated, 2,500 reactions
12005585	ddPCR Gene Expression Assay (Cy5.5), 200 x 20 µL reactions	10031246	ddPCR MUT FAM Assay, Validated, 200 reactions
12005586	ddPCR Gene Expression Assay (Cy5.5), 1,000 x 20 µL reactions	10031247	ddPCR MUT FAM Assay, Validated, 1,000 reactions
12005587	ddPCR Gene Expression Assay (Cy5.5), 2,500 x 20 µL reactions	10031248	ddPCR MUT FAM Assay, Validated, 2,500 reactions
12017404	ddPCR Gene Expression Assay (ROX), 200 x 20 µL reactions	10031249	ddPCR MUT HEX Assay, Validated, 200 reactions
12017425	ddPCR Gene Expression Assay (ROX), 1,000 x 20 µL reactions	10031250	ddPCR MUT HEX Assay, Validated, 1,000 reactions
12017426	ddPCR Gene Expression Assay (ROX), 2,500 x 20 µL reactions	10031251	ddPCR MUT HEX Assay, Validated, 2,500 reactions
12017374	ddPCR Gene Expression Assay (ATTO 590), 200 x 20 µL reactions		
12017427	ddPCR Gene Expression Assay (ATTO 590), 1,000 x 20 µL reactions		
12017394	ddPCR Gene Expression Assay (ATTO 590), 2,500 x 20 µL reactions		
12025579	ddPCR Gene Expression Assay (ATTO 550), 200 x 20 µL reactions		
12025605	ddPCR Gene Expression Assay (ATTO 550), 1,000 x 20 µL reactions		
12025596	ddPCR Gene Expression Assay (ATTO 550), 2,500 x 20 µL reactions		

Ordering Information

Catalog #	Description	Catalog #	Description
Custom Assays		Assay Design Service	
10031276	Custom ddPCR FAM Assay, 200 reactions	12008226	ddPCR Assay Design Service FAM Assay, 1,000 x 20 µL reactions
10031277	Custom ddPCR FAM Assay, 1,000 reactions	12008227	ddPCR Assay Design Service HEX Assay, 1,000 x 20 µL reactions
10031278	Custom ddPCR FAM Assay, 2,500 reactions	12008228	ddPCR Assay Design Service Cy5 Assay, 1,000 x 20 µL reactions
10031279	Custom ddPCR HEX Assay, 200 reactions	12008229	ddPCR Assay Design Service Cy5.5 Assay, 1,000 x 20 µL reactions
10031280	Custom ddPCR HEX Assay, 1,000 reactions	12008230	ddPCR Assay Design Service 450 µM Primer, 50 µL
10031281	Custom ddPCR HEX Assay, 2,500 reactions	12008231	ddPCR Assay Design Service 125 µM FAM Probe, 50 µL
12005588	Custom ddPCR Cy5 Assay, 200 reactions	12008232	ddPCR Assay Design Service 125 µM HEX Probe, 50 µL
12005589	Custom ddPCR Cy5 Assay, 1,000 reactions	12008233	ddPCR Assay Design Service 125 µM Cy5 Probe, 50 µL
12005590	Custom ddPCR Cy5 Assay, 2,500 reactions	12008234	ddPCR Assay Design Service 125 µM Cy5.5 Probe, 50 µL
12005591	Custom ddPCR Cy5.5 Assay, 200 reactions	12008235	ddPCR Assay Design Service 375 µM Dark Probe with Iowa Black FQ, 50 µL
12005592	Custom ddPCR Cy5.5 Assay, 1,000 reactions	12008236	ddPCR Assay Design Service 375 µM Dark Probe with Iowa Black RQ-Sp, 50 µL
12005593	Custom ddPCR Cy5.5 Assay, 2,500 reactions	12020293	ddPCR Assay Design Service 125 µM ROX Probe, 50 µL
12022489	Custom ddPCR ROX Assay, 200 reactions	12020307	ddPCR Assay Design Service 125 µM ATTO 590 Probe, 50 µL
12022457	Custom ddPCR ROX Assay, 1,000 reactions	12025606	ddPCR Assay Design Service 125µM ATTO 550 Probe, 50 µL
12022663	Custom ddPCR ROX Assay, 2,500 reactions	12025597	ddPCR ADS ROX Assay, 1,000 x 20 µL reactions
12022662	Custom ddPCR ATTO 590 Assay, 200 reactions	12025590	ddPCR ADS ATTO 590 Assay, 1,000 x 20 µL reactions
12022500	Custom ddPCR ATTO 590 Assay, 1,000 reactions	12025580	ddPCR ADS ATTO 550 Assay, 1,000 x 20 µL reactions
12022661	Custom ddPCR ATTO 590 Assay, 2,500 reactions		
12025634	Custom ddPCR ATTO 550 Assay, 200 reactions		
12025589	Custom ddPCR ATTO 550 Assay, 1,000 reactions		
12025635	Custom ddPCR ATTO 550 Assay, 2,500 reactions		

Catalog #	Description
12008183, 12008184, 12008185, 12008186, 12008187, 12008188, 12008189, 12008190, 12008201, 12008202, 12008203, 12008204, 12008205, 12008206, 12008207, 12008208, 12008209, 12008210, 12008211, 12008212, 12008213, 12008214, 12008215, 12008216, 12008217, 12008218, 12008219	ddPCR Expert Design Assay , 200 x 20 µL reactions
12003898, 12003899, 12003900, 12003901, 12003902, 12003903, 12003904, 12003905, 12003906, 12003907, 12003908, 12003909, 12003910, 12003923, 12004111, 12004112, 12004113, 12004114, 12004115, 12004116, 12004117, 12004118, 12004119, 12004120, 12004121, 12004122, 12004123	ddPCR Expert Design Assay , 1,000 x 20 µL reactions

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