

**DMARK'S  
RIGISHELL PCR PLATES &  
RIGISEAL CLEAR PCR  
ADHESIVE SEALS**

[www.dmarkbio.com](http://www.dmarkbio.com)

## DMark's Line of Rigi PCR Plates & Clear PCR Adhesive Seals

### RigiShell PCR Plates:

- Proven excellence in PCR outcomes with our dual-component RigiShell PCR plates.
- Reaction tubes with thin walls crafted from pure medical-grade polypropylene.
- Sturdy polycarbonate frames assure seamless integration with automated systems.
- Dual-component structure combats evaporation, a frequent issue with single-component PCR plates.
- Held to the strictest quality standards for both PCR and qPCR applications.
- Certified free from DNase, RNase, nucleases and human gDNA.



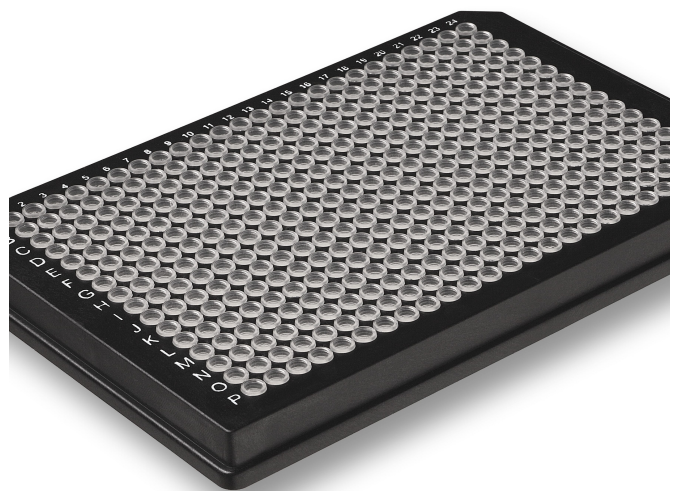
### RigiShell PCR Plate design:

Our RigiShell PCR plate is expertly designed for optimal PCR and qPCR outcomes.

Built with 100% virgin, medical-grade polypropylene reaction chambers, these are housed within a sturdy polycarbonate frame. This combination not only withstands the strains of thermal cycling but also significantly reduces the sample evaporation and losses commonly experienced with traditional polypropylene plates.

By ensuring minimal evaporation, our plate offers more uniform PCR results and allows labs to use smaller sample volumes, leading to savings given the high cost of PCR reagents.

Additionally, our plates maintain a consistent flatness, making them compatible and efficient with robotic plate handlers throughout the testing process.





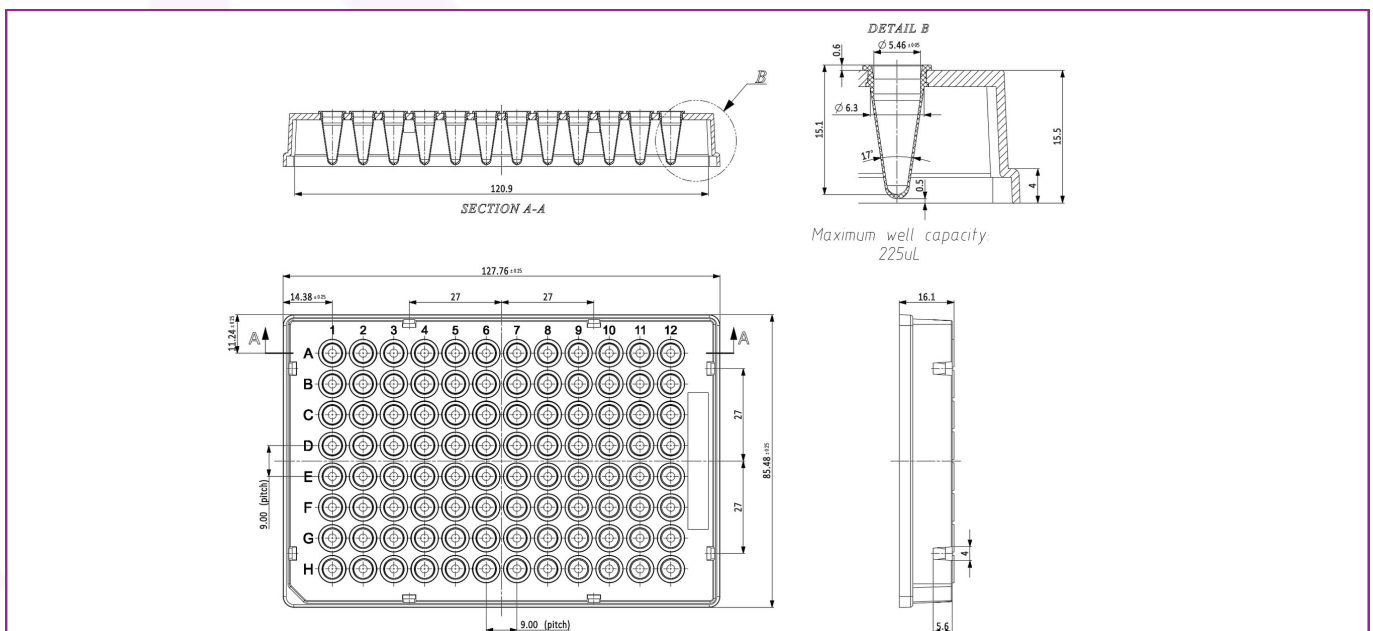
### RigiShell 96 Well PCR Plate, Fully Skirted with H1 cut corner

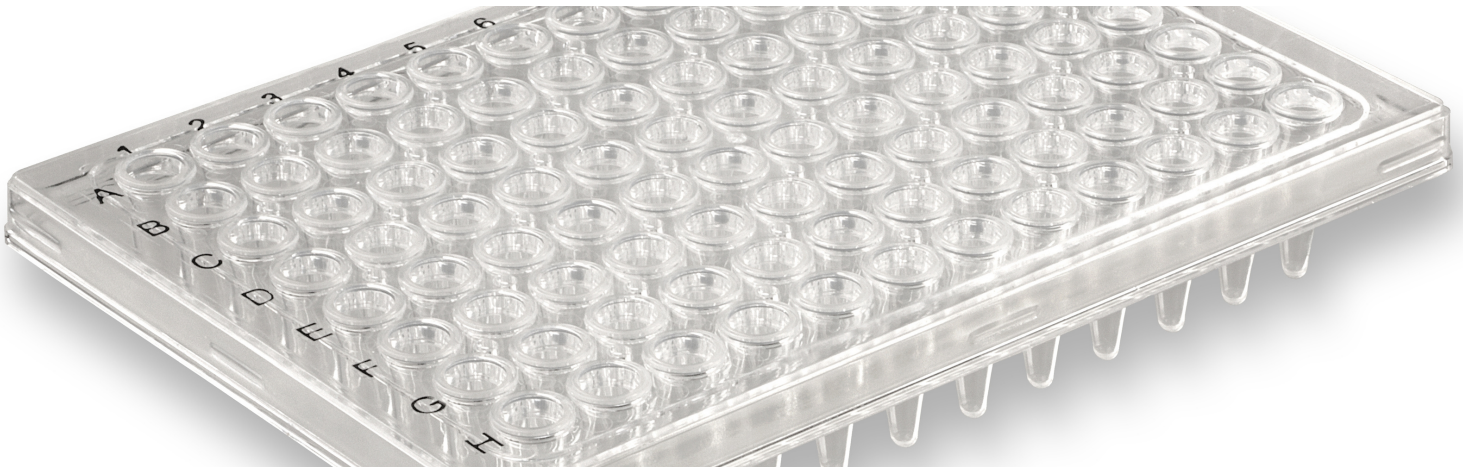
RigiShell 96 Well PCR Plate, Fully Skirted with H1 cut corner, Clear Low Profile Low Bind wells, Black Ultra Rigid frame.

**SKU:** DM-RigiFS96.

**Pack Size:** 10 plates per sleeve, 50 plates per box.

- The Ultra Rigid fully skirted frame retains its form during thermal cycling, ensuring consistent robotic interaction and preserving the seal integrity of each well throughout the process.
- Slender-walled chambers crafted from 100% virgin medical-grade polypropylene. The low-profile wells boast a maximum volume of 225 $\mu$ l.
- Produced in alignment with the strictest quality benchmarks tailored for your PCR and qPCR needs.
- Our completely skirted 2-component plate is versatile, compatible with a broad spectrum of instruments, and is fully automated system-friendly.





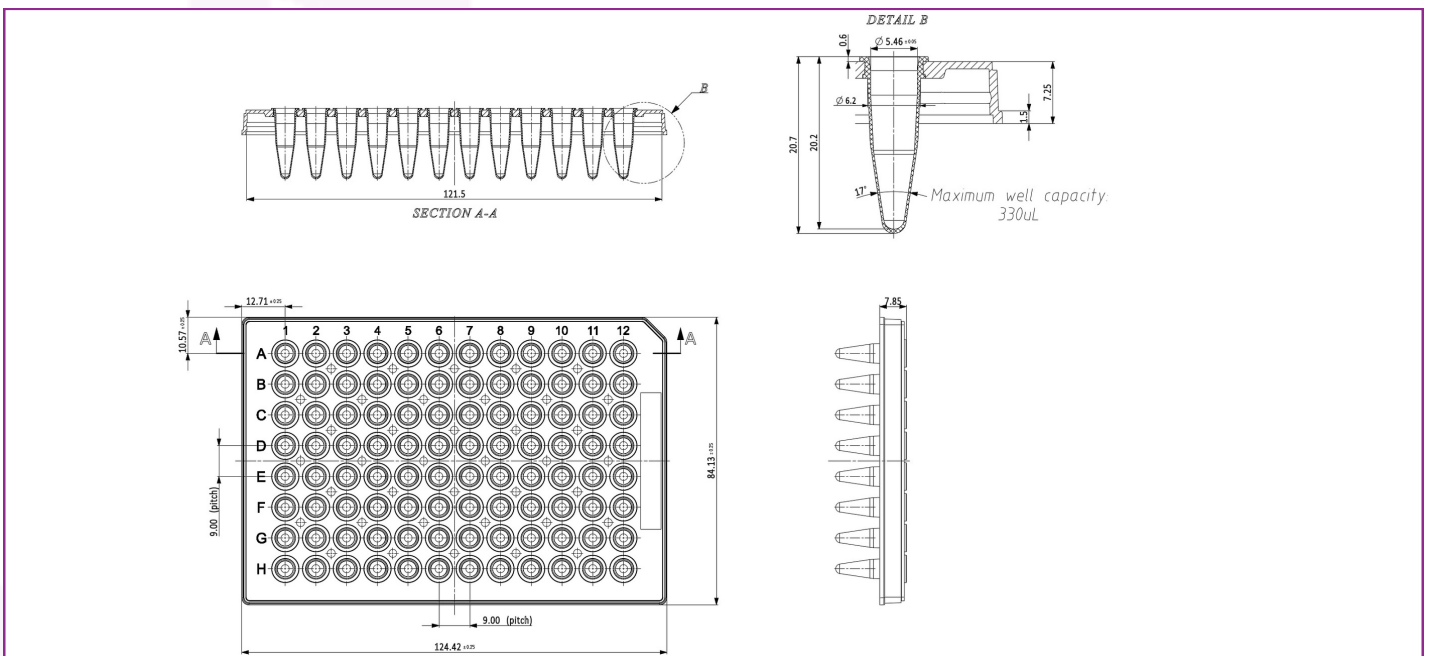
### RigiShell 96 Well PCR Plate, Semi-Skirted, ABI style with A12 cut corner

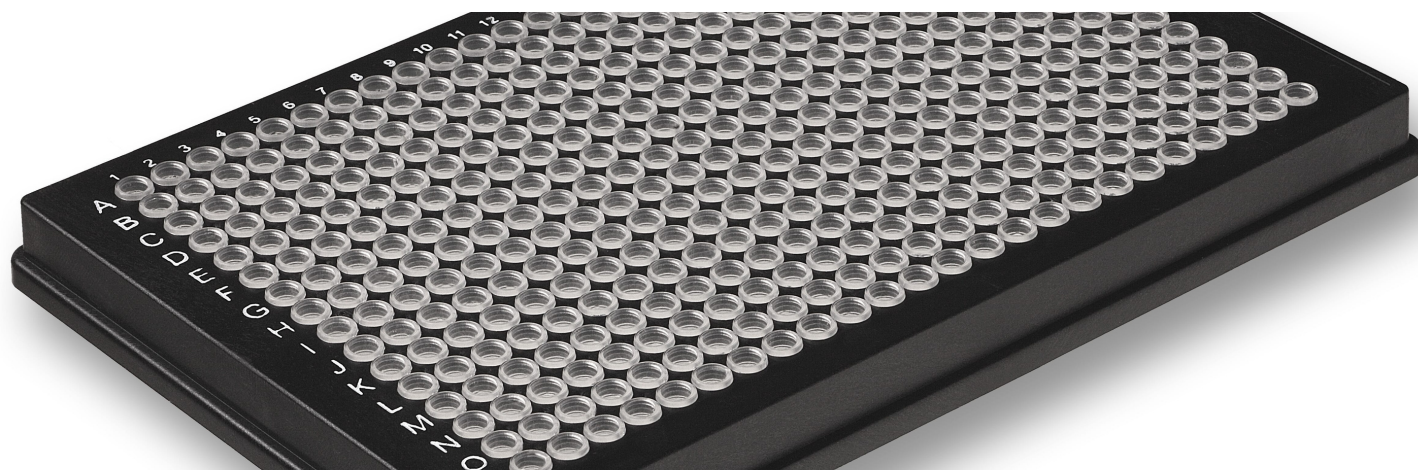
RigiShell 96 Well PCR Plate, Semi-Skirted, ABI style with A12 cut corner, Clear Standard Profile Low Bind wells, Clear Rigid frame.

**SKU:** DM-RigiSS96.

**Pack Size:** 10 plates per sleeve, 50 plates per box.

- The robust semi-skirted frame maintains its shape throughout thermal cycling, promoting consistent robotic operations and guaranteeing the integrity of each well's seal during the cycle.
- Slender-walled chambers are crafted from 100% virgin, medical-grade polypropylene. • Standard profile wells can accommodate up to 330µl.
- Produced adhering to the top-tier quality benchmarks, tailored for your PCR and qPCR needs.
- ABI style 2-component plates are engineered to be compatible across a variety of ABI thermal cyclers, spanning both legacy models and the latest equipment.





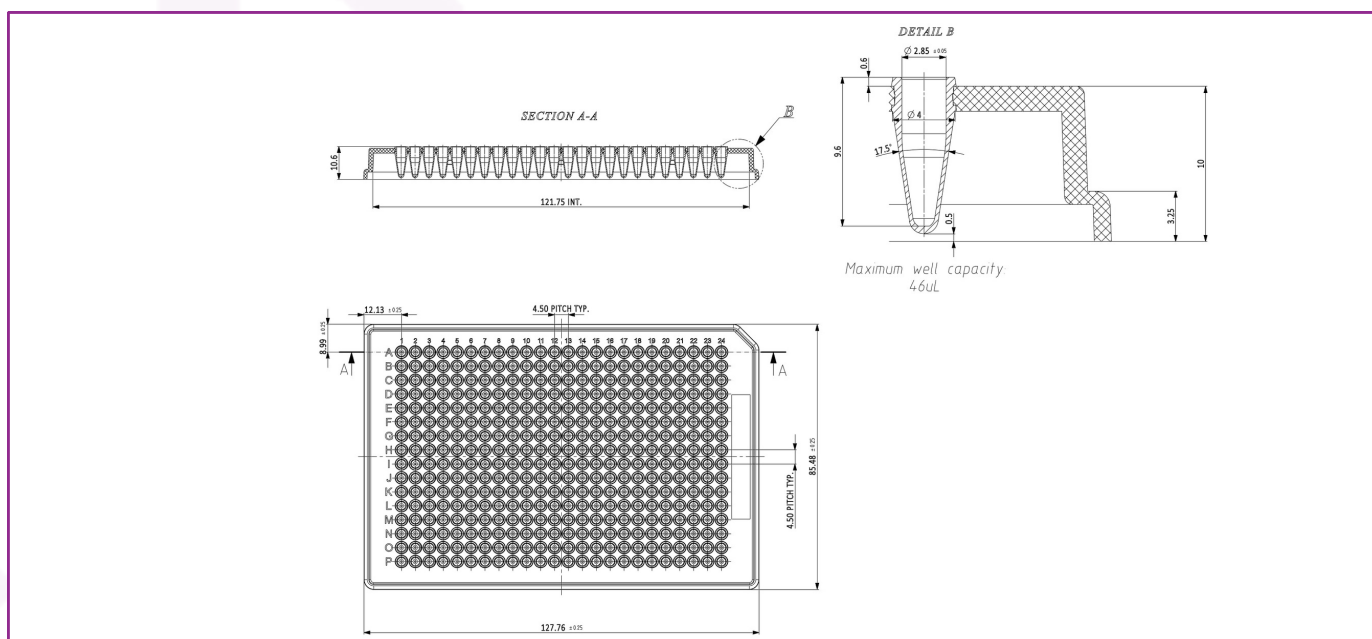
### RigiShell 384 Well PCR Plate, Fully Skirted with A24 cut corner

RigiShell 384 Well PCR Plate, Fully Skirted with A24 cut corner, Clear Low Bind wells, Black Ultra Rigid frame.

**SKU:** DM-RigiFS384.

**Pack Size:** 10 plates per sleeve, 50 plates per box.

- The sturdy semi-skirted frame holds its form throughout thermal cycling, guaranteeing dependable robotic interactions and preserving the integrity of the seal for every well during the process.
- Sleek-walled chambers are constructed using 100% virgin, medical-grade polypropylene.
- Each well can accommodate up to 45µl.
- Fabricated in line with the strictest quality guidelines to serve your PCR and qPCR needs.
- Our comprehensive skirted 2-component PCR plate is versatile, suitable for an array of instruments, and designed for full automation compatibility.





## RigiSeal Clear PCR Adhesive Seal

RigiSeal Clear PCR Adhesive Seal.

**SKU:** DM-Seals.

**Pack Size:** 100 sheets per pouch.

Suitable for PCR, qPCR, optical, and storage uses:

- Assured to be free of DNase, RNase, nucleases, and human gDNA.
- Transparent polyester film with robust adhesive.
- Sealing reliability: -20°C to 110°C.
- Easy-to-peel.

Our RigiSeal Clear PCR Adhesive Seal consists of a see-through polyester layer backed by a potent acrylic adhesive. This adhesive ensures a lasting seal, effectively thwarting sample evaporation. It also features two adhesive-free end-tabs for convenient handling. The product is ideal for PCR, qPCR, and optical tasks, such as fluorescence and colorimetric tests, and regular sample preservation.

## Your trust in our product quality is paramount

Our commitment to quality is unwavering, ensuring our plates not only meet our stringent specifications but, crucially, align with your expectations. Throughout the manufacturing process, our quality team carries out multiple visual assessments to guarantee defect-free products. We meticulously measure critical segments to confirm they match our dimensional standards. Moreover, each plate is subjected to an advanced electronic integrity check for its wells, ensuring there are no breaches. This implies that every individual well of every plate is inspected for potential leaks prior to packaging. Our quality assurance doesn't stop there; we conduct an array of tests evaluating both plate and well durability, and a PCR evaporation test to confirm the absence of leaks post heat-sealing. As a final measure, we undertake a fluorometric detection test to ensure the plates are devoid of DNase or RNase contamination. A quantitative PCR examination further guarantees our products are untainted by discernible human genomic DNA and are free from any PCR inhibitors.

## Instrument Compatibility List

<p align="center"><b>RigiShell 96 Well PCR Plate, Fully Skirted with H1 cut corner (DM-RigiFS96)</b></p>	<p>Agilent AriaMx qPCR System, Agilent Robocycler Gradient, Analytic Jena Alpha SC, Analytic Jena Flexcycler2, TI Thermocycler, T Gradient, T One, T Advanced, T Professional series, Analytic Jena T robot 96, SpeedCycler2 SP, SPR, Apollo ATC-201, Biometra T Advanced 96, 96 G, 96 S, 96 SG, Biometra T Gradient 96, Biometra T One, Biometra T Professional series, Biometra Uno, Bio-Rad (MJ Research) DNA Engine Opticon and Opticon 2, Bio-Rad (MJ Research) DNA Engine, DNA Engine Tetrad, Tetrad 2, DNA Engine Dyad, Dyad Disciple, Bio-Rad (MJ Research) PTC 200, Bio-Rad C1000, C1000 Touch, S1000, Bio-Rad C1000, C1000 Touch, S1000, Bio-Rad CFX Connect, CFX96, CFX96 Touch, Bio-Rad CFX96 Touch Deep Well, Bio-Rad Chromo4, Eppendorf Mastercycler ep realplex, Eppendorf MasterCycler ep, ep gradient, Pro, Pro S, nexus, nexus gradient, nexus SX1, nexus GSX1 Eppendorf Mastercycler series, GE Healthcare Amersham MegaBACE 500, MegaBACE 1000 mark 2, G-Storm GSI, Idaho Technology LightScanner, MJ Research (Bio-Rad) DNA Engine Opticon and Opticon 2, MJ Research (Bio-Rad) DNA Engine, DNA Engine Tetrad, Tetrad 2, DNA Engine Dyad, Dyad Disciple, MJ Research (Bio-Rad) PTC100, 200, 220, 221, 225, 240, peqLab peqSTAR 96X, Techne Quantica Techne TC-412, Techne TC412, TC512, Genius, Genius Quad, Touchgene, Touchgene Gradient, Flexigene, Techne TC-PLUS, Techne Touchgene, VWR Collection UNO96, VWR peqlab peqSTAR 96X.</p>
<p align="center"><b>RigiShell 96 Well PCR Plate, Semi-Skirted, ABI style with A12 cut corner (DM-RigiSS96)</b></p>	<p>ABI 3100, 3130XL, 3500, 3500XL, 3730, 3730XL, ABI 7000, 7300, 7500, 7700, 7900 HT, ABI GeneAmp 2700, 2720, 9600, 9700, ABI QuantStudio 3, 5, 6, 7, 12K, ViiA7, ABI Veriti, Proflex, Simpliamp, Agilent Mx3000P, Mx3005P, Mx4000, Analytik Jena Flexcycler2, TI Thermocycler, Tgradient, Tone, Tadvanced, TProfessional Gradient/XL Analytik Jena qTOWER3 G, qTOWER3 touch, Toptical, Analytik Jena Trobot 96, SpeedCycler2 SP, SpeedCycler2 SPR, Bioer Technologies Gene Touch 96, Bio-Rad C1000 Touch, S1000, iCycler, MyCycler, TI00, Bio-Rad MyiQ, iCycler IQ, IQ 4, IQ 5, Corbett Research (Qiagen) Palm Cyclor, Eppendorf MasterCycler ep, ep gradient, ep realplex, Pro, nexus, nexus gradient, nexus SX1, nexus GSX1 MJ Research (Bio-Rad) PTC100, 200, 220, 221, 225, 240, Chromo4, peqLab peqSTAR 96X, Sensoquest Labcycler, Takara Dice touch, Gradient, Techne PCRmax Alpha cyclor 1, 2, 4, Techne Prime, PrimeG, Prime Elite, Prime Elite Satellite, Techne TC412, TC512, Genius, Genius Quad, Touchgene, Touchgene Gradient, Flexigene.</p>
<p align="center"><b>RigiShell 384 Well PCR Plate, Fully Skirted with A24 cut corner (DM-RigiFS384)</b></p>	<p>ABI 3100, 3130XL, 3500, 3500XL, 3730, 3730XL, ABI GeneAmp 9700, Veriti, Proflex, Multiblock system, ABI QuantStudio 5, 6, 7, 12K, ViiA7, 7900 HT FAST, ABI Veriti 384-well, Agilent SureCycler 8800, Analytik Jena Flexcycler2, TI Thermocycler, Tadvanced, TProfessional, Trobot, Qtower, Bioer Gene Touch 384, Biometra Tadvanced, Bio-Rad C1000, C1000 Touch, S1000, Bio-Rad CFX384, CFX384 Touch, Corbett Research (Qiagen) Palm Cyclor 384, Eppendorf MasterCycler ep 384 / Pro 384, GE Healthcare Amersham MegaBACE 4000, Idaho Technology LightScanner, MJ Research (Bio-Rad) DNA Engine, Tetrad, Tetrad 2, Dyad, Dyad Disciple, MJ Research (Bio-Rad) PTC200, 220, 221, 225, 240, peqLab peqSTAR 384X, Sensoquest Labcycler, Techne PCRmax Alpha cyclor 1, 2, 4, Techne Prime, PrimeG, Prime Elite, Prime Elite Satellite, Techne TC412, TC512, Genius, Genius Quad, Flexigene.</p>

This list has been compiled based on plate design and by cross-referencing compatibility data from Eppendorf, Bio-Rad, 4titude, among others. Please note that each instrument mentioned might feature variations in block design and setup. While this serves as a general guideline, compatibility is not guaranteed. All instrument brand names and model names specified are trademarks belonging to their respective owners. Updated on February, 2022.

## Reports to analyze DNA Binding in wells

DNA can bind to certain plastics like polypropylene, affecting PCR results. This is crucial in qPCR, NGS, and small volume reactions. Although most PCR plates use polypropylene, the resin types vary. Some brands claim to be "low binding." A study was done to compare RigiShell plates' DNA binding with top global brands to identify any differences.

### Method:

- Prepared a series of human genomic DNA samples with concentrations ranging from 10ng/μl to 0.01ng/μl.
- Applied 50μl aliquots of each concentration to samples on separate plates.
- Incubated the plates at three different temperatures for 30 minutes each: 4°C, 37°C, and 65°C. Separate plates were used for each temperature.
- After each incubation, transferred the aliquots to the next row of the PCR plate and repeated the incubation process. This repetition continued until all rows of the plates had been tested.
- Subsequently, 1μl from each sample underwent qPCR analysis targeting the human ACTB gene. This analysis was done in duplicate.
- A control dilution series, which had not undergone incubation, was also analyzed alongside the test samples.
- To assess DNA retention levels, calculated the difference in Cq values ( $\Delta Cq$ ) between the test plates and their respective control dilution series.
- Determined if significant DNA binding had occurred with each type of plate.

### Summary:

The qPCR test results revealed no notable variations between the tested plate batches and the controls. This suggests that the DNA didn't significantly bind to the plastic of the plates in question.



## Reports to analyze DNA Binding in wells

### Results:

**Table 1:** Dilution series Cq values for each plate tested at different temperatures, with standard controls.

Cq	Standard	Sample 1 @ 4°C	Sample 1 @ 37°C	Sample 1 @ 65°C
<b>10ng</b>	22.53	22.59	22.63	22.40
<b>1ng</b>	25.38	26.22	26.14	25.56
<b>0.1ng</b>	28.82	29.55	29.27	29.06
<b>0.01ng</b>	32.56	32.62	32.34	32.48

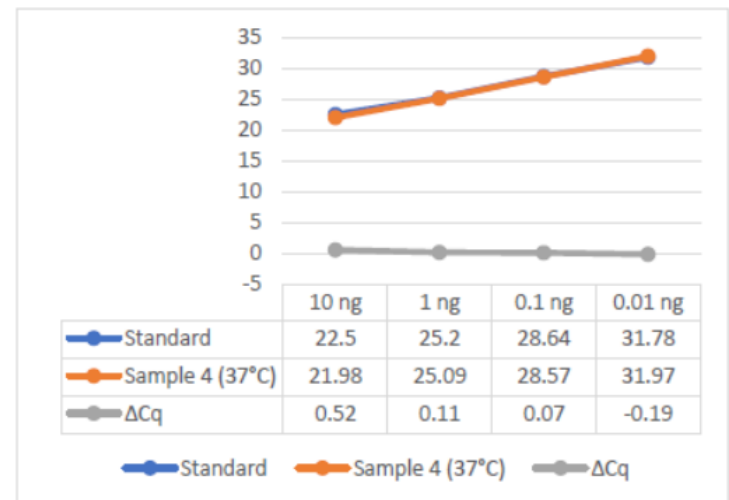
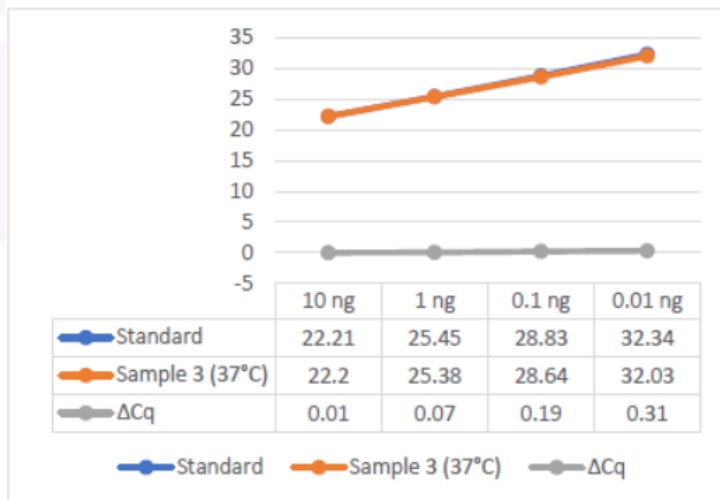
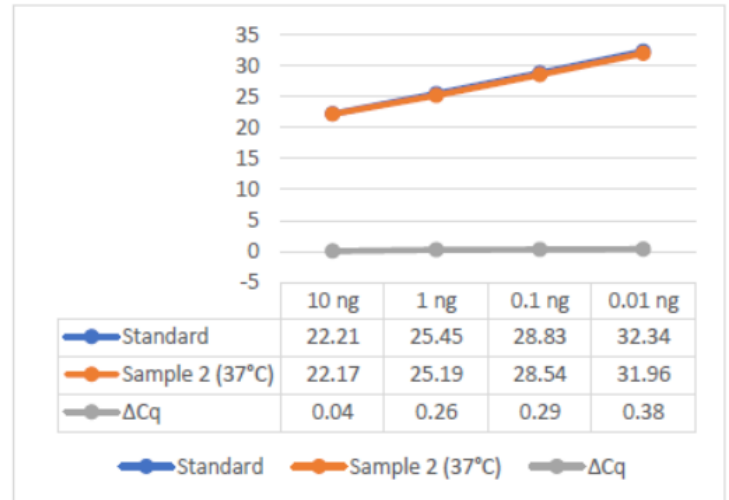
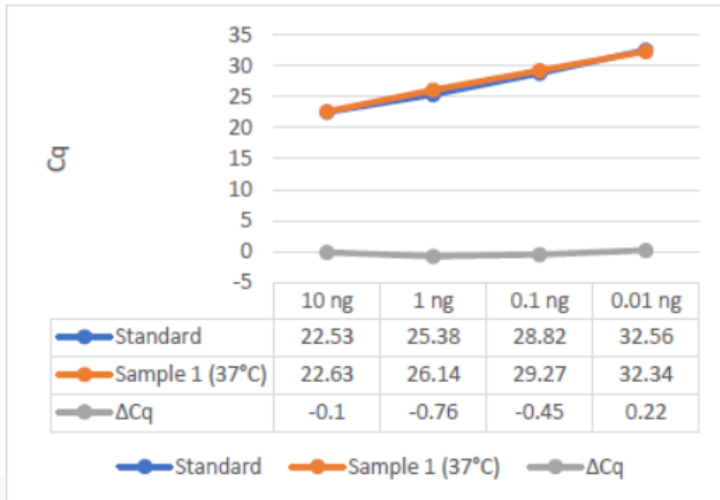
Cq	Standard	Sample 2 @ 4°C	Sample 2 @ 37°C	Sample 2 @ 65°C
<b>10ng</b>	22.21	22.47	22.17	22.06
<b>1ng</b>	25.45	25.54	25.19	25.26
<b>0.1ng</b>	28.83	28.92	28.54	28.42
<b>0.01ng</b>	32.34	32.04	31.96	31.66

Cq	Standard	Sample 3 @ 4°C	Sample 3 @ 37°C	Sample 3 @ 65°C
<b>10ng</b>	22.21	22.42	22.20	22.11
<b>1ng</b>	25.45	25.91	25.38	25.34
<b>0.1ng</b>	28.83	29.38	28.64	28.52
<b>0.01ng</b>	32.34	32.83	32.03	32.37

Cq	Standard	Sample 4 @ 4°C	Sample 4 @ 37°C	Sample 4 @ 65°C
<b>10ng</b>	22.50	22.54	21.98	22.05
<b>1ng</b>	25.20	25.34	25.09	25.22
<b>0.1ng</b>	28.64	28.78	28.57	28.73
<b>0.01ng</b>	31.78	32.64	31.97	31.59

## Reports to analyze DNA Binding in wells

**Figure 1:** Graphical representation of the 37°C standard curves for each plate, with  $\Delta Cq$  comparison to standard controls.



## Reports to analyze DNA Binding in wells

**Table 2:**  $\Delta Cq$  values and averages for each plate tested at different temperatures.

$\Delta Cq$	Sample 1 @ 4°C	Sample 1 @ 37°C	Sample 1 @ 65°C	Mean $\Delta Cq$ across all Temps
10ng	-0.06	-0.04	0.23	<b>-0.02</b>
1ng	-0.84	0.08	0.58	
0.1ng	-0.73	0.28	0.21	
0.01ng	-0.06	0.28	-0.14	
<b>Mean <math>\Delta</math></b>	<b>-0.42</b>	<b>0.15</b>	<b>0.22</b>	
$\Delta Cq$	Sample 2 @ 4°C	Sample 2 @ 37°C	Sample 2 @ 65°C	Mean $\Delta Cq$ across all Temps
10ng	-0.26	0.30	0.11	<b>0.12</b>
1ng	-0.09	0.35	-0.07	
0.1ng	-0.09	0.38	0.12	
0.01ng	0.30	0.08	0.30	
<b>Mean <math>\Delta</math></b>	<b>-0.03</b>	<b>0.28</b>	<b>0.12</b>	
$\Delta Cq$	Sample 3 @ 4°C	Sample 3 @ 37°C	Sample 3 @ 65°C	Mean $\Delta Cq$ across all Temps
10ng	-0.21	0.22	0.09	<b>0.04</b>
1ng	-0.46	0.53	0.04	
0.1ng	-0.55	0.74	0.12	
0.01ng	-0.49	0.80	-0.34	
<b>Mean <math>\Delta</math></b>	<b>-0.43</b>	<b>0.57</b>	<b>-0.02</b>	
$\Delta Cq$	Sample 4 @ 4°C	Sample 4 @ 37°C	Sample 4 @ 65°C	Mean $\Delta Cq$ across all Temps
10ng	-0.04	0.56	-0.07	<b>0.04</b>
1ng	-0.14	0.25	-0.13	
0.1ng	-0.14	0.21	-0.16	
0.01ng	-0.86	0.67	0.38	
<b>Mean <math>\Delta</math></b>	<b>-0.30</b>	<b>0.42</b>	<b>0.005</b>	

On average,  $\Delta Cq$  values across all plate types and temperatures were within +/- 0.2 cycles of the control standards.

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