July 2026

Quick-Start Protocol

Sf9/Baculo resDNA Quant Standard Kit

The Sf9/Baculo resDNA Quant Standard Kit (cat. no. 250328) consists of QIAcuity® DNA Standard Sf9, QIAcuity DNA Standard Baculovirus and Nucleic Acid Dilution Buffer. The Sf9/Baculo resDNA Quant Standard Kit is a dPCR-verified absolute quantification standard that can be used in combination with QIAcuity Sf9/Baculo resDNA Quant Kit (cat. no. 250327) for validation of quantitation accuracy or bridging studies.

Store reagents at –30°C to –15°C, protected from light, in a constant-temperature freezer.

Further information

- *resDNA Quant Standard Kit Handbook*: **www.qiagen.com/HB-3839**
- *QIAcuity Sf9/Baculo resDNA Quant Kit Quick-Start Protocol*: **resources.qiagen.com/HB-3846**
- *QIAcuity User Manual*: **www.qiagen.com/HB-2717**
- *QIAcuity Application Guide*: **www.qiagen.com/HB-2839**
- Safety Data Sheets: **www.qiagen.com/safety**
- Technical assistance: **support.qiagen.com**

Notes before starting

- Wear laboratory coats, goggles, and gloves throughout the procedure.
- Decontaminate all dPCR workspaces and labware (including pipettes, tube racks, etc.) before each experiment to mitigate potential DNA contamination in dPCR assays.
- Store sample materials and control templates separately from other reagents. Ensure physical separation of dPCR setup areas from post-dPCR processing operations.
- Do not remove the QIAcuity nanoplate from its protective sealed bag until immediately before use. Avoid removing the sealer foil from previously used QIAcuity nanoplates to prevent the release of dPCR product DNA into the environment, which may compromise results.

- Pipetting accuracy and precision are critical for consistent results. Take care to avoid introducing air bubbles into the wells of the dPCR plate during pipetting.
- DNA samples with an average length of ≥20 kb should undergo fragmentation by restriction digestion prior to partitioning. Enzymatic fragmentation of large DNA templates facilitates uniform distribution across the QIAcuity nanoplate.
- If necessary, thaw kit components and mix thoroughly before use.

Procedure

Reaction setup

1. Table 1 provides exemplary dilutions for QIAcuity DNA Standard Sf9 and Table 2 for QIAcuity DNA Standard Baculovirus, that are compatible with the QIAcuity Sf9/Baculo resDNA Quant Kit.

Table 1. Exemplary dilution series for QIAcuity DNA Standard Sf9

Dilution of QIAcuity DNA Standard Sf9 (50 pg/µL)	Concentration in dilution (fg/µL)	Volume from previous dilution step (µL)	Volume of NADB* (µL)	Total Volume of dilution (µL)
Undiluted	50,000	–	–	–
1:5	10,000	10	40	50
1:25	2000	10	40	50
1:125	400	10	40	50
1:625	80	10	40	50

* NADB: Nucleic Acid Dilution Buffer.

Table 2. Exemplary dilution series for QIAcuity DNA Standard Baculovirus

Dilution of QIAcuity DNA Standard Baculovirus (50 pg/µL)	Concentration in dilution (fg/µL)	Volume from previous dilution step (µL)	Volume of NADB (µL)	Total Volume of dilution (µL)
Undiluted	50,000	–	–	–
1:10	5000	5	45	50
1:100	500	5	45	50
1:1000	50	5	45	50
1:5000	10	10	40	50
1:25000	2	10	40	50
1:125000	0.4	10	40	50
1:625000	0.08	10	40	50
1:3125000	0.016	10	40	50

2. Table 3 provides exemplary loading amounts and dilutions for the QIAcuity DNA Standard Sf9, and Table 4 for the QIAcuity DNA Standard Baculovirus to be used with the QIAcuity Sf9/Baculo resDNA Quant Kit.

Table 3. Loading amounts of QIAcuity DNA Standard Sf9 from Table 1 using 2 µL of the dilutions as input into the dPCR reaction

Dilution of QIAcuity DNA Standard Sf9 (50 pg/µL) dilutions	Concentrations of QIAcuity DNA Standard Sf9 (fg/µL)	Final amount in 40 µL reaction using 2 µL input (fg)	Final concentration in 40 µL reaction using 2 µL input (fg/µL)
Undiluted	50,000	100,000	2500
1:5	10,000	20,000	500
1:25	2000	4000	100
1:125	400	800	20
1:625	80	160	4

Table 4. Loading amounts of QIAcuity DNA Standard Baculovirus from Table 2 using 2 µL of the dilutions as input into the dPCR reaction

Dilution of QIAcuity DNA Standard Baculovirus (50 pg/µL)	Concentrations of QIAcuity DNA Standard Baculovirus (fg/µL)	Final amount in 40 µL reaction using 2 µL input (fg)	Final concentration in 40 µL reaction using 2 µL input (fg/µL)
1:5000	10	20	0.5
1:25000	2	4	0.1
1:125000	0.4	0.8	0.02
1:625000	0.08	0.16	0.004
1:3125000	0.016	0.032	0.0008

Digital PCR Run

Load the suggested DNA volumes into the dPCR reaction and conduct the dPCR run and subsequent analysis according to the *QIAcuity Sf9/Baculo resDNA Quant Kit Handbook* and *QIAcuity Sf9/Baculo resDNA Quant Kit Quick-Start Protocol*.

Document Revision History

Date	Changes
07/2026	Initial release.