June 2026

Quick-Start Protocol

P. pastoris resDNA Quant Standard Kit

The *P. pastoris* resDNA Quant Standard Kit (cat. no. 250330) consists of QIAcuity DNA Standard *P. pastoris* and Nucleic Acid Dilution Buffer. The *P. pastoris* resDNA Quant Standard Kit is a dPCR-verified absolute quantification standard that can be used in combination with the QIAcuity *P. pastoris* resDNA Quant Kit (cat. no. 250329) 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

- *P. pastoris resDNA Quant Standard Kit Handbook*: **resources.qiagen.com/250330**
- *QIAcuity P. pastoris resDNA Quant Kit Quick-Start Protocol*: **resources.qiagen.com/HB-3848**
- *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 loading concentrations and dilutions of the QIAcuity DNA Standard *P. pastoris*, that are compatible with the QIAcuity *P. pastoris* resDNA Quant Kit

Table 1. Exemplary dilution series

Dilution of QIAcuity DNA Standard *P. pastoris* (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	20	80	100
1:25	2000	20	80	100
1:125	400	20	80	100
1:625	80	20	80	100
1:3125	16	20	80	100

* NADB: Nucleic Acid Dilution Buffer.

2. Table 2 provides exemplary loading amounts and dilutions for the QIAcuity DNA Standard *P. pastoris* to be used with the QIAcuity *P. pastoris* resDNA Quant Kit.

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

Dilution of QIAcuity DNA Standard *P. pastoris* (50 pg/µL)	Concentrations of QIAcuity DNA Standard *P. pastoris* (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)
1:5	10,000	20,000	500
1:25	2000	4000	100
1:125	400	800	20
1:625	80	160	4
1:3125	16	32	0.8

Digital PCR Run

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

Document Revision History

Date	Changes
06/2026	Initial release.