

PyroMark® Q24 Cartridge

For dispensing reagents in PyroMark Q24 and PyroMark Q24 Advanced Systems

The PyroMark Q24 Cartridge is used in the dispensing unit of PyroMark Q24 and PyroMark Q24 Advanced Systems. The cartridge is divided into compartments that are to be filled with PyroMark Gold Q24 or PyroMark Q24 Advanced Reagents.

Contents

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Symbols used on the PyroMark Q24 Cartridge



Components



Number



Contains



Material number



Catalog number



Code



Instrument parameters



Lot number



Consult instructions for use



Legal manufacturer



Temperature limitations



Keep away from (sun)light

Storage

PyroMark Q24 Cartridges should be stored at room temperature (15–25°C). We recommend storing cartridges in the PyroMark Q96 HS Tip Holder Box (cat. no. 9019074) to protect them from dust and sunlight.

Quality control

In accordance with QIAGEN's ISO-certified Quality Management System, each lot of PyroMark Q24 Cartridges is tested against predetermined specifications to ensure consistent product quality.



Safety information

When working with chemicals, always wear a suitable lab coat, disposable gloves, and protective goggles. For more information, please consult the appropriate safety data sheets (SDSs). These are available online in convenient and compact PDF format at www.qiagen.com/safety where you can find, view, and print the SDS for each QIAGEN kit and kit component.



WARNING: Sharp needles

Do not touch the needles at the bottom of the reagent cartridge.

24-hour emergency information

Chemical emergency or accident assistance is available 24 hours a day from: CHEMTREC

USA & Canada: 1-800-424-9300

Outside USA & Canada: +1-703-527-3887 (collect calls accepted)

Important points before starting

- PyroMark Q24 Cartridges must be handled with care to avoid personal injury and damage to the needles.
- Handled correctly, a PyroMark Q24 Cartridge retains accuracy for a total of 30 runs.
- For protection, PyroMark Q24 Cartridges are shipped with needles capped. Remove the cap before using the cartridge for the first time. We do not recommend recapping the needles since replacing and removing the cap may damage the needles.
- We recommend cleaning the PyroMark Q24 Cartridge before using it for the first time, and also if it has not been used in 4 weeks or longer, to remove any particles that may have accumulated.

Equipment and reagents to be supplied by user

- PyroMark Q24* or PyroMark 24 Advanced System*
- High-purity water (Milli-Q® 18.2 MΩ x cm or equivalent)
- Lint-free tissue
- PyroMark Q96 HS Tip Holder Box (cat. no. 9019074)

Filling the PyroMark Q24 Cartridge

1. Allow reagents and cartridge to reach ambient temperature (20–25°C).
2. Reconstitute the Enzyme and Substrate Mixtures, as described in the *PyroMark Gold Q24 Reagents Handbook* or *PyroMark Q24 Advanced Reagents Handbook*.
3. Position the PyroMark Q24 Cartridge with the label facing you.

* Ensure that the instrument has been checked and calibrated according to QIAGEN's recommendations.

4. Pipet the reagents into the PyroMark Q24 Cartridge according to Figure 1.

Make sure that no air bubbles are transferred from the pipet to the cartridge.

Note: If pipetting small volumes of reagents into the cartridge (e.g., below 50 µl per well) make sure that all liquid is collected at the bottom of the cartridge. For example, this can be accomplished by gently tapping the cartridge several times on a smooth work bench.

Important: Avoid tapping the cartridge too hard or on uneven surfaces, as this can damage the needles. Alternatively, the volume of liquid used can be increased.

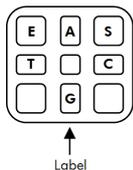


Figure 1. Illustration of the PyroMark Q24 Cartridge seen from above. Add enzyme mixture (E), substrate mixture (S), and nucleotides (A, T, C, G) according to the volume information given in the Pre Run information report, found in the “Tools” menu at run setup.

Starting a Pyrosequencing® run

1. Choose the instrument method that corresponds to the cartridge to be used. See the *PyroMark Q24 User Manual* or *PyroMark Q24 Advanced User Manual* for detailed instructions.

Note: The method number printed on the cartridge label corresponds to specific settings provided at www.qiagen.com/PyroMarkInstrumentMethods.

2. Before placing the filled reagent cartridge into the PyroMark instrument, ensure that there is no liquid on the outside of the needles as this will result in dispensation of incorrect reagent volumes.
3. Place the cartridge and the PyroMark Q24 Plate with the samples to be analyzed into the PyroMark instrument and start the run (see the *PyroMark Q24 User Manual* or *PyroMark Q24 Advanced User Manual*).

Cleaning the PyroMark Q24 Cartridge

If the cartridge is to be reused, it must be cleaned immediately after use.

1. Discard solutions remaining in the PyroMark Q24 Cartridge.
2. Rinse the PyroMark Q24 Cartridge 4 times with high-purity water.
3. Spray the outside of the needles with high-purity water.
4. Check that the cartridge needles are not blocked or damaged. Completely fill the compartments with high-purity water. Hold the cartridge over a sink or beaker while pressing firmly on top of each compartment with a finger (wear powder-free gloves). A jet of water should come straight out of the tip of each needle.
5. If a needle is blocked, follow step 5a. If the jet of water comes out of a needle at an angle, instead of parallel to the direction of the needle, follow step 5b. If all needles are working properly, proceed to step 6.

- 5a. If a needle is blocked (for example, if the reagent cartridge was left overnight without cleaning), fill the compartments with high-purity water and immerse the PyroMark Q24 Cartridge in a beaker with enough high-purity water to cover the needles. Leave the cartridge in the beaker for 1 h, then rinse, and repeat step 4. Proceed to step 6.
- 5b. If the jet of water comes out at an angle, refill the compartment with water and repeat step 4. If the water still comes out at an angle, discard the PyroMark Q24 Cartridge. Otherwise, proceed to step 6.
- Observe all federal, state, and local environmental regulations for disposal of laboratory waste.
6. When all needles have been rinsed and checked, discard any remaining water and let the PyroMark Q24 Cartridge dry on a lint-free tissue.
- Before using the cartridge, ensure that the needles are dry. Do not dry the needles with tissue. Liquid droplets, lint, or particles remaining on the needle tips will affect cartridge performance.
7. Once dry, store the PyroMark Q24 Cartridge in the PyroMark Q96 HS Tip Holder Box.

Ordering Information

Product	Contents	Cat. no.
PyroMark Q24 Cartridge (3)	Cartridge for dispensing nucleotides and reagents	979202
Related Products		
PyroMark Gold Q24 Reagents (5 x 24)	Enzyme mixture, substrate mixture, nucleotides for use with PyroMark Q24 systems	972802
PyroMark Q24 Advanced Reagents (4 x 24)	Enzyme mixture, substrate mixture, nucleotides, and buffers for use with PyroMark Q24 Advanced systems	970902
PyroMark Q24 Advanced CpG Reagents (4 x 24)	Enzyme mixture, substrate mixture, nucleotides, and buffers for use with PyroMark Q24 Advanced systems	970922
PyroMark Q96 HS Tip Holder Box	Storage box for PyroMark tips and cartridges	9019074

For up-to-date licensing information and product-specific disclaimers, see the respective QIAGEN kit handbook or user manual. QIAGEN kit handbooks and user manuals are available at www.qiagen.com or can be requested from QIAGEN Technical Services or your local distributor.

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