GelPilot® LE Agarose

For separation of nucleic acids (100 bp–23 kb fragments)

GelPilot LE Agarose is highly suitable for electrophoresis of nucleic acids. It is a high-purity agarose extracted from the *Gelidium* species of seaweed and is characterized by low sulfate content. GelPilot LE Agarose meets the stringent requirements for nucleic acid applications and is suitable for preparative as well as analytical nucleic acid electrophoresis, providing a wide resolution range of 100 bp–23 kb. It delivers very firm gels at low concentrations. DNA binding does not occur and no DNase and RNase activity is detected.

For separation and analysis of small fragments (20–800 bp), GelPilot Small Fragment Agarose (100 g) (cat. no. 129832) or GelPilot Small Fragment Agarose (500 g) (cat. no. 129834) is recommended.

Specifications

Gelling temperature (dynamic measurement in 1.5% solution)	34–38°C
Melting temperature (1.5%)	>90°C
Gel strength (1% gel)	≥1200 g/cm^2

Safety Information

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

24-hour emergency information

Emergency medical information in English, French, and German can be obtained 24 hours a day from:

Poison Information Center Mainz, Germany
Tel: +49-6131-19240

Quality Control

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

Table 1. Suggested agarose concentrations

	Final agarose concentration (%)	
Size range (bp)	**1x TAE Buffer**	**1x TBE Buffer**
1000–23,000	0.6	0.5
800–10,000	0.8	0.7
400–8000	1	0.85
300–7000	1.2	1
200–4000	1.5	1.25
100–3000	2	1.75

Table 2. Migration of double-stranded DNA in relation to Xylene Cyanol (XC) and Bromophenol Blue (BPB)

1x TAE Buffer			**1x TBE Buffer**	
XC	**BPB**	**Agarose (%)**	**XC**	**BPB**
24,800	2900	0.3	19,400	2850
11,000	1650	0.5	12,000	1350
10,200	1000	0.75	9200	720
6100	500	1	4100	400
3560	370	1.25	2500	260
2800	300	1.5	1800	200
1800	200	1.75	1100	110
1300	150	2	850	70

Protocol: Agarose preparation using a microwave or hotplate

When working with chemicals, always wear a suitable lab coat, disposable gloves, and protective goggles. Guard yourself and others against scalding solutions.

Procedure

1. **Choose a heat-resistant beaker or flask that is 2–4 times the volume of the solution.**
2. **Add room-temperature 1x or 0.5x electrophoresis buffer and a stir bar to the beaker/flask.**
3. **Slowly sprinkle in the agarose powder while the solution is rapidly stirred.**
4. **If using a microwave, remove the stir bar if it is not coated with Teflon®.**
5. **Weigh the beaker/flask and solution before heating.**
6. **Cover the beaker/flask with plastic wrap.**
   Note: Pierce a small hole in the plastic wrap for ventilation.
7. **If using a microwave, perform steps 8–13 before proceeding with step 15. If using a hotplate, perform step 14 before proceeding with step 15.**
8. **Heat the beaker/flask in the microwave on high power until bubbles appear.**
9. **Remove the beaker/flask from the microwave.**

   IMPORTANT: Any microwaved solution may become superheated and foam over when agitated so be careful during handling.
10. **Gently swirl the beaker/flask to resuspend any settled powder and gel pieces.**

    IMPORTANT: Swirl carefully to avoid splashing the hot solution.
11. **Reheat the beaker/flask on high power until the solution comes to a boil.**
12. **Hold at boiling point for 1 min or until all particles are dissolved.**
13. **Remove the beaker/flask from the microwave and gently swirl to thoroughly mix the agarose solution.**

    IMPORTANT: Swirl carefully to avoid splashing the hot solution.
14. **If using a hotplate, bring the solution to a boil while stirring and maintain gentle boiling until all the agarose is dissolved (approximately 10 min).**
15. **After dissolution, add sufficient hot distilled water to obtain the initial weight.**
16. **Mix thoroughly.**
17. **Cool the solution to 50–60°C prior to casting.**
18. **Once the gel is cast, allow the molten agarose to cool and gel at room temperature.**
    Note: The gel must then be placed at 4°C for 20 min to obtain optimal resolution and gel handling characteristics.

Ordering Information

Product	Contents	Cat. no.
GelPilot LE Agarose (500 g)	500 grams of high-quality, molecular biology grade agarose for any DNA or RNA application (resolution range of 100 bp–23 kb)	129814
Related products		
GelPilot Small Fragment Agarose (100 g)	100 grams of high-quality agarose for separation and analysis of small fragments (20–800 bp)	129832
GelPilot Small Fragment Agarose (500 g)	500 grams of high-quality agarose for separation and analysis of small fragments (20–800 bp)	129834

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.

www.qiagen.com

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Sample & Assay Technologies