

SeqPrep™ 384 Plasmid Prep Kit

Product	Catalog #	Purifications
SeqPrep™ 384 Plasmid Prep Kit (50 Plates)	81333	19,200
SeqPrep™ 384 Plasmid Prep Kit (100 Plates)	75554	38,400

Description

The SeqPrep™ 384 Plasmid Prep Kit is a 384-well plate kit that provides a novel technology for high-throughput isolation of plasmid DNA from bacterial cultures. The kit is designed for easy and rapid preparation of plasmids for use in DNA sequencing, restriction digestion, clone screening and PCR.

The SeqPrep™ 384 Plate has been surface-modified to enable efficient and highly selective DNA binding to the surface of the wells. The plate can be used for culture growth, DNA purification and DNA storage. No magnets, vacuum or plate transfers are required. The process is not only highly automatable, but simple and easy to use in manual operation.

Bacteria are grown in 0.016 – 0.070 ml of medium in the SeqPrep™ 384 Plate, pelleted by centrifugation (optional), and resuspended in a proprietary lysis/DNA-binding solution. DNA binds to the modified surface of the wells during the lysis. The impurities are removed with Wash Solution and 70% Isopropanol. After drying, plasmid DNA is resuspended in dH₂O or 10mM Tris-HCl, pH 8.0 and ready for immediate use in various downstream applications. The DNA may be stored on the plate at 4°C for one month or at -20°C for long-term storage.

Kit Components	81333	75554
SeqPrep™ 384 Plates	50 plates (2 x PN 4050210)	100 plates (4 x PN 4050210)
SeqPrep™ 384 Lysis Solution	500 ml (1 x PN 4050234)	1000 ml (2 x PN 4050234)
Enzyme Mix	10 ml (1 x PN 4050232)	20 ml (2 x PN 4050232)
Wash Solution	300 ml (1 x PN 4050233)	600 ml (2 x PN 4050233)
Gas-Permeable Plate Sealers	50 seals (1 x PN 4050236)	100 seals (2 x PN 4050236)

Storage and Stability Conditions

Store the Enzyme Mix at -20°C.

Store the remaining items at room temperature.

After addition of Enzyme Mix to SeqPrep™ 384 Lysis Solution, store the mixture at 4°C.

Lysis Solution/Enzyme Mix is stable for two weeks.

Equipment and Materials Required

1. Multichannel pipettor / dispenser
2. Isopropanol
3. De-ionized water (dH₂O) and 10mM Tris-HCl, pH 8.0
4. Centrifuge with microplate carriers capable of reaching 2500 rpm
5. Vortexer with a microplate adaptor.
6. Adhesive Plate Sealers (Edge BioSystems, Cat. # 48461).
7. Gas-Permeable Plate Sealers (Edge BioSystems Cat. # 97584)

Quality Control

Tested for functionality in DNA sequencing with 1/32nd Big Dye® v3.1 sequencing reactions.

Before starting

Prepare Lysis Solution/Enzyme Mix – High-volume cultures

Add 10 ml of Enzyme Mix and 250 ml of dH₂O to 500 ml of SeqPrep™ 384 Lysis Solution. Mix well. Label "High-volume".

Store unused Lysis Solution/Enzyme Mix at 4°C.

Prepare Lysis Solution/Enzyme Mix – Low-volume cultures

Add 10 ml of Enzyme Mix to 500 ml of SeqPrep™ 384 Lysis Solution. Mix well. Label "Low-volume".

Store unused Lysis Solution/Enzyme Mix at 4°C.

Prepare Wash Solution

Add 700 ml of Isopropanol to 300 ml of Wash Solution and mix. Label "Isopropanol added".

Prepare 70% Isopropanol

Mix 300 ml of dH₂O with 700 ml of Isopropanol to make 70% Isopropanol.

Recommended Protocol – High-volume Cultures

1. In a SeqPrep™ 384 Plate, inoculate 70 µl of Terrific Broth with 2 µl of glycerol stock or a single colony. Cover with a plate lid or a gas-permeable seal.
2. Incubate at 37 °C and shake at 300 rpm for 12 - 16 hours.
3. Centrifuge the SeqPrep™ 384 Plate at 2500 rpm for 3 minutes.
4. Remove supernatant by a brief inverted spin.
 - Immediately, remove cover and decant the supernatant over a tray. Invert the plate on paper towels and centrifuge at 600 rpm for 5 seconds.
5. Add 30 µl of prepared Lysis Solution/Enzyme Mix for High-volume.
6. Pipet to mix 8-10 times.
OR
Vortex to mix for 1 minute.
 - Secure the plate to a vortex mixer and gradually increase the vortex speed to obtain a vigorous agitation without splashing liquid from the wells.
7. Incubate at room temperature for 3 minutes.
8. Remove lysate by pipetting or inverted spin.
 - Inverted spin: decant the lysate over a tray, invert the plate on paper towels and centrifuge at 2500 rpm for 30 seconds.
9. Wash the sample once with 40 µl of prepared Wash Solution.
 - Add 40 µl of Wash Solution. Mix by shaking or pipetting. Remove solution by pipetting or inverted spin.
10. Wash the sample twice with 40 µl of 70% Isopropanol.
 - Add 40 µl of 70% isopropanol. Mix by shaking or pipetting. Remove solution by pipetting or an inverted spin.
11. Invert the plate onto a paper towel or an absorbent pad and centrifuge at 2500 rpm for 1 minute.
 - It is important to remove as much of the remaining liquid from the last wash step as possible before drying the plate. Alternatively, remove the remaining liquid slowly by pipetting. Dry the plate for at least an hour before DNA elution (**Step 13**).
12. Dry SeqPrep™ 384 Plate at room temperature for 30 minutes.
13. Add 30 µl of 10mM Tris-HCl, pH 8.0 or dH₂O. Pipet to mix or incubate for 10 minutes at room temperature.
14. DNA is ready for immediate use.

Recommended Protocol – Low-volume Cultures

1. In a SeqPrep™ 384 Plate, inoculate 16 µl of Terrific Broth with 2 µl of glycerol stock or a single colony. Cover with an adhesive sealer.
2. Incubate at 37 °C 12 - 16 hours without shaking.
3. Add 20 µl of prepared Lysis Solution/Enzyme Mix for Low-volume.
4. Pipet to mix 8-10 times.
OR
Vortex to mix for 1 minute.
 - Secure the plate to a vortex mixer and gradually increase the vortex speed to obtain a vigorous agitation without splashing liquid from the wells.
5. Incubate at room temperature for 3 minutes.
6. Remove lysate by pipetting or inverted spin.
 - Inverted spin: decant the lysate over a tray, invert the plate on paper towels and centrifuge at 2500 rpm for 30 seconds.
7. Wash the sample once with 40 µl of prepared Wash Solution.
 - Add 40 µl of Wash Solution. Mix by shaking or pipetting. Remove solution by pipetting or inverted spin.
8. Wash the sample twice with 40 µl of 70% Isopropanol.
 - Add 40 µl of 70% isopropanol. Mix by gently shaking or pipetting. Remove solution by pipetting or an inverted spin.
9. Invert the plate onto a paper towel or an absorbent pad and centrifuge at 2500 rpm for 1 minute.
 - It is important to remove as much of the remaining liquid from the last wash step as possible before drying the plate. Alternatively, remove the remaining liquid slowly by pipetting. Dry the plate for at least an hour before DNA elution (**Step 11**).
10. Dry SeqPrep™ 384 Plate at room temperature for 30 minutes.
11. Add 30 µl of 10mM Tris-HCl, pH 8.0 or dH₂O. Pipet to mix or incubate for 10 minutes at room temperature.
12. DNA is ready for immediate use.