Geneaid™ DNA Isolation Kit (Bacteria) Quick Protocol

For research use only

Catalogue Number

GEE005, GEE150, GEE1.5K, GEE1.5K+,

Instruction Manual Download

When using this product for the first time, or if you are unfamiliar with the procedure, please scan the QR code and download the complete instruction manual.

Instruction Manual Download

0.5-1.5 x 10^9 Bacteria Protocol Procedure

1. Sample Preparation

Gram (-) Bacteria

Transfer the **Gram (-) negative bacteria culture (0.5-1.5 x 10^9)** to a 1.5 ml microcentrifuge tube then centrifuge at 14-16,000 x g for 1 minute. Discard the supernatant then proceed to step 2 Lysis.

Gram (+) Bacteria

Transfer the **Gram (+) bacteria culture (0.5-1.5 x 10^9)** to a 1.5 ml microcentrifuge tube. Centrifuge for 1 minute at 14-16,000 x g then discard the supernatant. Transfer the required volume of **Gram+ Buffer (100 µl/sample)** to a 15 ml centrifuge tube. Add **Lysozyme (0.8 mg/100 µl) to Gram+ Buffer** (in the 15 ml centrifuge tube) then vortex to completely dissolve the Lysozyme. Transfer **100 µl of Gram+ Buffer** (make sure Lysozyme was added) to the bacteria pellet. Resuspend the pellet by shaking vigorously or pipette. Incubate at room temperature for 10-20 minutes. During incubation, invert the tube every 2-3 minutes.

2. Lysis

Add **300 µl of Cell Lysis Buffer** to the tube then mix by vortex. Incubate at 60ºC for at least 10 minutes to ensure the sample lysate is clear and homogenous. During incubation, invert the tube every 3 minutes.

Optional RNA Removal Step

Following 60ºC incubation, add 1.5 µl of RNase A (10 mg/ml) to the sample lysate then mix by vortex. Incubate at room temperature for 5 minutes.

3. Protein Removal

Add **100 µl of Protein Removal Buffer** to the sample lysate then vortex immediately for 10 seconds. Centrifuge at 14-16,000 x g for 3 minutes to form a tight pellet.

NOTE: If the pellet is loose, incubate on ice for 5 minutes followed by centrifugation at 14-16,000 x g for another 3 minutes.

4. DNA Precipitation

Transfer the supernatant to a clean 1.5 ml microcentrifuge tube then add **300 µl of isopropanol** and mix well by gently inverting 20 times. Centrifuge at 14-16,000 x g for 5 minutes then carefully discard the supernatant and add **300 µl of 70% ethanol** to wash the pellet. Centrifuge at 14-16,000 x g for 3 minutes then carefully discard the supernatant and air-dry the pellet for 10 minutes.

5. DNA Rehydration

Add **100 µl of DNA Hydration Buffer** then gently vortex for 10 seconds. Incubate at 60ºC for 30-60 minutes to dissolve the DNA pellet. During incubation, tap the bottom of the tube to promote DNA rehydration.

Components

Geneaid™ Bacteria Kit	GEE005	GEE150	GEE1.5K	GEE1.5K+
Number of cells processed per kit	5 x 10^9	1.5 x 10^{11}	1.5 x 10^{12}	1.5 x 10^{12}
Cell Lysis Buffer	3 ml	100 ml	1000 ml	1000 ml
Protein Removal Buffer	1 ml	40 ml	400 ml	400 ml
DNA Hydration Buffer (10 mM Tris-HCl, 1 mM EDTA, pH 8.0)	1 ml	50 ml	500 ml	500 ml
Gram+ Buffer	1.5 ml	30 ml	150 ml	150 ml
RNase A (10 mg/ml)	25 µl	550 µl	Not included	5 ml
Lysozyme	8 mg	130 mg	Not included	610 mg x 2

Storage

Cell Lysis Buffer, Protein Removal Buffer, DNA Hydration Buffer, Gram+ Buffer should be stored dry at room temperature (15-25ºC) for up to 2 years. RNase A should be stored at 4ºC for extended periods. Lysozyme should be stored at -20ºC for extended periods.