Geneaid™ DNA Isolation Kit (Tissue) Quick Protocol

For research use only

Catalogue Number

GET005, GET150, GET1.5K, GET1.5K+,

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

10-20 mg Tissue Protocol Procedure

1. Tissue Dissociation

Transfer **10-20 mg of tissue (0.5 cm mouse tail)** to a 1.5 ml microcentrifuge tube and use a micropestle to grind the tissue a few times. Add **600 µl of Cell Lysis Buffer** to the tube and continue to homogenize the sample tissue with grinding.

2. Lysis

Add **12 µl of Proteinase K** to the tube then mix by vortex. Incubate at 60ºC for 30-60 minutes or until the tissue has dissolved completely. During incubation, invert the tube periodically.

Optional RNA Removal Step

Following 60ºC incubation, add 3 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 **200 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 **600 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 **600 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.

150-200 mg Tissue Protocol Procedure

1. Tissue Dissociation

Freeze **150-200 mg of tissue** with liquid nitrogen then grind to a fine powder using a mortar and pestle. Add **6 ml of Cell Lysis Buffer** to the morter and continue to homogenize the sample tissue with grinding. Transfer the homogenized sample to a 15 ml centrifuge tube.

2. Lysis

Add **120 µl of Proteinase K** then mix by vortex. Incubate at 60ºC for 30-60 minutes or until the tissue has dissolved completely. During incubation, invert the tube periodically.

Optional RNA Removal Step

Following 60ºC incubation, add 30 µl of RNase A (10 mg/ml) to the sample lysate then mix by vortex. Incubate at room temperature for 10 minutes.

3. Protein Removal

Add **2 ml of Protein Removal Buffer** to the sample lysate then vortex immediately for 10 seconds. Centrifuge at 2-3,000 x g for 5 minutes to form a tight pellet.

NOTE: If the pellet is loose, incubate on ice for 5 minutes followed by centrifugation at 3-6,000 x g for another 5 minutes.

4. DNA Precipitation

Transfer the supernatant to a clean 15 ml centrifuge tube then add **6 ml of isopropanol** and mix well by gently inverting 20 times. Centrifuge at 2-3,000 x g for 5 minutes then carefully discard the supernatant and add **6 ml of 70% ethanol** to wash the pellet. Centrifuge at 2-3,000 x g for 3 minutes then carefully discard the supernatant and air-dry the pellet for 10 minutes.

5. DNA Rehydration

Add **200 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™ Tissue Kit	GET005	GET150	GET01.5K	GET01.5K+
Tissue amount processed per kit	**100 mg**	**3.3 g**	**33 g**	**33 g**
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
RNase A (10 mg/ml)	25 µl	550 µl	Not included	5 ml
Proteinase K (add ddH_2O)	1 mg (0.1 ml)	11 mg x 2 (1.1 ml)	65 mg x 3 (6.5 ml) 11 mg x 1 (1.1 ml)	65 mg x 3 (6.5 ml) 11 mg x 1 (1.1 ml)

Storage

Cell Lysis Buffer, Protein Removal Buffer, DNA Hydration Buffer should be stored dry at room temperature (15-25ºC) for up to 2 years. Proteinase K and RNase A should be stored at 4ºC for extended periods. Add ddH_2O to Proteinase K (see the bottle label for volume) then vortex to ensure Proteinase K is completely disolved. Check the box on the bottle. Once it is disolved completely, centrifuge for a few seconds to spin the mixture down. The Proteinase K mixture should be stored at 4ºC.