TECHNICAL BULLETIN

# Protocol for Genomic DNA Isolation from Mouse Tail/Animal Tissue or Cultured Cells

## Description

The following protocol is for genomic DNA isolation from cultured cells or animal tissue using the Genomic DNA Purification Kit (Catalog #79020). For complete instructions, refer to the Technical Manual (Document #10000005432).

## Directions

1. Prepare cell lysate from mouse tail or tissue, or from tissue culture cells, as indicated below.

### Mouse Tail or Animal Tissue Lysate

a) Prepare Digestion Solution as indicated in Table 1. Mix thoroughly and store on ice.

**Table 1.** Preparation of Digestion Solution

| Components | Volume per Sample |
|---|---|
| Tissue Lysis Solution | 200 µL |
| EDTA | 50 µL |
| Proteinase K Solution | 20 µL |
| RNase A Solution | 5 µL |
| Total Volume | 275 µL |

b) Cut a 0.5 - 1.2 cm length of mouse tail from the tip or weigh up to 20 mg of tissue sample in a clean DNase-free 1.7 mL microcentrifuge tube.

c) Add 275 µL Digestion Solution to each tube.

d) Incubate the sample tubes overnight (16 - 18 hours) in a 55°C heating block or water bath.

e) Add 250 µL Lysis Buffer to each sample. Vortex to mix.

f) Proceed to step 2 for DNA isolation.

### Tissue Culture Cell Lysate from Cell Suspension

a) Collect 1 x $10^4$ to a maximum of 5 x $10^6$ cells. Wash the cells once with D-PBS.

b) Add 150 µL Lysis Buffer to the washed cells. Mix by pipetting up and down.

c) Proceed to step 2 for DNA isolation.

2. Insert minicolumn into Collection Tube.
3. Transfer lysate sample to the minicolumn assembly.
4. Centrifuge at 13,000 x *g* for 3 minutes. Remove the minicolumn from the Collection Tube and discard the liquid. Reinsert the minicolumn in the Collection Tube.
5. Add 650 µL Column Wash Buffer (with ethanol added). Centrifuge at 13,000 x *g* for 1 minute. Remove the minicolumn from the Collection Tube and discard the liquid. Reinsert the minicolumn in the Collection Tube.
6. Repeat step 5 for a total of 4 washes.
7. Empty the Collection Tube and place the minicolumn back in the tube. Centrifuge at 13,000 x *g* for 2 minutes to dry the membrane.
8. Carefully transfer minicolumn to a new labeled 1.7 mL microcentrifuge tube.
9. Add 250 µL nuclease-free water to the minicolumn. Incubate at room temperature for 1 - 2 minutes. Centrifuge at 13,000 x *g* for 1 minute. For **mouse tail or animal tissue lysates**, proceed to step 10. For **tissue culture lysates**, proceed to step 11.
10. Add an additional 250 µL nuclease-free water to the minicolumn. Incubate at room temperature for 1 - 2 minutes. Centrifuge at 13,000 x *g* for 1 minute.
11. Discard minicolumn and store purified DNA at -20°C.

***Note:*** *For mouse tail or animal tissue lysates, elution volume will be approximately 500 µL. For tissue culture cell lysates, elution volume will be approximately 250 µL. This is the recommended elution volume for optimal DNA yield. A lower elution volume will concentrate the DNA but may decrease total yield.*

# Protocol for Genomic DNA Isolation