# Genorise® Hair DNA Extraction Kit 50

This kit is to isolate total DNA including genomic and mitochondrial DNA from 1-2 hair roots and is for 50 applications. This kit can significantly improve quality and quantity of DNA and is much cheaper than the similar products.

Materials provided in the kit:
25 ml Lysis Solution
13 ml Protein Precipitation Solution
13 ml DNA Hydration Solution

Materials required but not provided in the kit:
Proteinase K, prepare at 20 mg/ml and store at -20ºC
Glycogen, prepare at 20 mg/ml and store at -20ºC
Isopropanol/Ethanol

## Protocol

**Cell Lysis**

1. Place 1 or 2 of 5 mm hair root in a 1.7 ml microcentrifute tube, add 0.5 ml of Lysis Solution and 3 µl Proteinase K solution (20 mg/ml), vortex for 20 sec.
2. Incubate at 55°C overnight.

**Protein precipitation**

1. Cool sample to room temperature by placing on ice for 1 min.
2. Add 0.2 ml of Protein Precipitation Solution to the lysate.
3. Vortex samples at high speed for 20 sec and place sample into an ice bath for 5 min.
4. Centrifuge at 15,000 x g for 5 min.

**DNA Precipitation**

1. Pour the supernatant containing DNA into a new 1.5 ml microcentrifute tube.
2. Centrifuge at 15,000 x g for 5 min.
3. Pour the supernatant to a new microcentrifuge tube; repeat step 1 and 2 until no pellet is seen.
4. Pour the supernatant containing DNA into a new 1.5 ml microcentrifute tube containing 0.7 ml 100% isopropanol and 2 µl of 20 mg/ml Glycogen solution.
5. Mix the samples by inverting 50 times and incubate at room temperature for 10 min.
6. Centrifuge at 13,000 x g for 5 min.
7. Pour off the supernatant and drain the tube briefly on clean absorbent paper. Add 0.7 ml of 70% ethanol and invert the tube several times to wash the DNA pellet.
8. Centrifuge at 13,000 x g for 5 min, carefully pour off the ethanol and do not lose the DNA pellet.
9. Invert and drain the tube on clean absorbent paper, completely remove the remaining liquid, and finally allow airing dry 5 min.

**DNA Hydration**

1. Add 30 µl DNA Hydration Solution.
2. Resuspend the DNA pellet by pipette for 5 times and rehydrate DNA by incubation for 10 min at room temperature.
3. Vortex briefly and pulse spin before use, and store the DNA at -20°C.

**Note**

1. Following DNA precipitation, if you see a pellet with a color other than white, we recommend you repeat this protocol with a start volume of 0.5 ml of DNA isolate with only 1 hr cell lysis.
2. Air drying of DNA pellet should not exceed 5 min.