HIGH QUALITY GENOMIC DNA EXTRACTION KIT FROM BLOOD SAMPLES

General instructions:

To ensure proper use and handling, please, READ THE ENTIRE MANUAL BEFORE using the Kit.

Labelling the top of each vial upon arrival of the kit is highly recommended to avoid mistakes.

This DNA Kit has been designed for research use only from minimal amounts of blood (both fresh and frozen samples can be used).

The approximate processing time is 120 minutes.

Kit contents

	20 extractions kit	50 extractions kit
Buffer EW	12 ml	25.5 ml
Solution A	7 ml	16 ml
Solution B	2.5 ml	6 ml
Solution C	0.85 ml	2.5 ml
Solution D	10 ml	22 ml
Solution E	12 ml	25.5 ml
Solution F	1 ml	3 ml
Microtubes (1.5 ml)	40	100

Equipment and materials required but not supplied

The following equipment and materials are required:

2 ml and 1.5 ml microcentrifuge tubes (safe-lock type recomended)

Pipets and pipet tips (pipet tips with aerosol barriers are strongly recommended to prevent cross-contamination)

Disposable gloves

Heating block for lysis of samples at 56°C

Microcentrifuge

Vortexer

Technical considerations

This Kit was specially designed with the aim of obtaining, in a reproducible manner, high quality genomic DNA for subsequent uses in genetic diagnostic procedures.

Purified genomic DNA has been successfully tested specifically, both in quality and in quantity.

Even with minimal amounts of starting material (50 µl of blood) high yield (approximately >75 µgr DNA/ml blood sample) can be guaranteed. Likewise, the quality of the obtained DNA is very high and with a high electrophoretic mobility showing very low contamination and fragmentation rate.

The following features: high yield, low contamination by protein and another macromolecules, minimal fragmentation and short processing time, and low amounts of starting required allow purified genomic DNA to be used downstream even for complex genetic studies (RFLP, Southern Blot, aCGH, etc.) either immediately or for later use.

Identification of the substance/mixture

BUFFER EW

Non Hazardous

SOLUTION A

Non Hazardous

SOLUTION B

Non Hazardous

SOLUTION C: Contains sodium acetate solution

1. HAZARDS IDENTIFICATION

a. Classification of the substance or mixture

- **Classification according to Regulation (EC) No 1272/2008**

Eye irritation (Category 2)

Not a hazardous substance or mixture according to EC-directives 67/548/EEC or 1999/45/EC.

b. Label elements

2. HANDLING

a. Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

Normal measures for preventive fire protection.

3. ACCIDENTAL RELEASE MEASURES

a. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapors, mist or gas.

Ensure adequate ventilation.

b. Environmental precautions

Do not let product enter drains.

c. Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

SOLUTION D: Contains 2-Propanol

1. HAZARDS IDENTIFICATION

a. Classification of the substance or mixture

- **Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]**

Flammable liquids (Category 2)

Eye irritation (Category 2)

Specific target organ toxicity - single exposure (Category 3)

- **Classification according to EU Directives 67/548/EEC or 1999/45/EC**

Highly flammable. Irritating to eyes. Vapours may cause drowsiness and dizziness.

b. Label elements

2. HANDLING

a. Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

Keep away from sources of ignition - No smoking.Take measures to prevent the build up of electrostatic charge.

b. Skin protection

Handle with gloves. Gloves must be inspected prior to use.

Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices.

Wash and dry hands.

3. ACCIDENTAL RELEASE MEASURES

a. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapors, mist or gas.

Ensure adequate ventilation. Remove all sources of ignition.

Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations.

Vapours can accumulate in low areas.

b. Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SOLUTION E

Non Hazardous

SOLUTION F

Non Hazardous

Storage

Keep container tightly closed in a well-ventilated place.

All buffers can be stored at room temperature (15-25°C). If temperature exceeds 25°C, is recommended to store at least solution A and C, in a cool place (2-8°C). White precipitates can be formed in solution A when stored in a cool place.

Remember, if stored at (2-8°C) solutions should be homogenized and equilibrated to room temperature before use (especially solution A to dissolve white precipitates formed).

All buffers are stable for at least 1 year when stored at room temperature (15-25°C) but only until the kit expiration date (see box label). If stored at 4°C the kit is stable for more than 1 year and quality does not decrease.

Procedure recommendations

- Samples

The extraction procedure can be performed from 50 µl of fresh or frozen blood samples.

- Solutions

Gently homogenize every solution before use, especially solutions A and C if stored in a cool place.

- Dry

It is recommended not overdrying the final pellet in order to avoid a difficult DNA solubilization. Add F solution when the pellet starts drying.

DNA Quantity and quality

Concentration

Fluorometric based method should be used in order to get accurate and reliable concentration readings, particularly when no RNase treatment has been done, as traces of RNA may over-quantify the sample concentration.

Ratio 260/230 and 260/280

DNA quality can be determined based on 260/230 and 260/280 ratios, however, with small DNA amount or RNA traces, ratios may change without affecting DNA quality.