

Appendix A

Equipments

Equipments	source
1. Balance; Analytical balance	Sartorius, Germany
2. Biological safety cabinet class II	Gelman Science, Australia
3. Centrifuge : Refrigerated centrifuge	Sorvall, Germany
: Refrigerated micro centrifuge	Sorvall, Germany
4. Deionization system:	ELGASTAT, England
5. DNA thermal cycle	Px2 Thermal cycle, USA
6. Dry block heater	Biosan Laboratory Inc., USA
7. Freezer -20 °C	Sunyo, Thailand
8. Freezer -70 °C	Kelvinator Scientific, USA
9. Horizontal Gel Electrophoresis System	Mupid-2, Advance, Japan
10. Hot air oven	Sheldon, USA
11. Microwave: Sharp	Sharp: Japan
12. pH Meter	Pierce, USA
13. Photo documentation	Fotodyne, USA
14. Primer Premier version 5.0 software	PREMIERbiosoft International, CA, USA
15. Refrigerator 4 °C	Sunyo, Thailand
16. DNA densitometer	Hoefer DyNA Quant 200, USA
17. Vortex mixer	Scientific Industries, USA
18. Water bath	Sheldon, USA

Appendix B**Supplies**

Supplies	source
1. Conical tube 15 ml.	Nunc : Denmark
2. Disposable Pipettes	Nunc : Denmark
3. Disposable Groves	Sempermed® : Thailand
4. Microtube 1.5 ml.	Corning : USA
5. Pipette tip 100-1000 μ l	Corning : USA
6. Pipette tip 1-200 μ l	Corning : USA
7. Pipette tip 1-10 μ l	Corning : USA
8. Thin wall tube 0.5 ml.	Corning : USA

Appendix C

Chemicals and reagents

Chemicals or reagents	source
1. Absolute ethanol	Merck, Darmstadt, Germany
2. Acetic Acid, glacial	Merck, Darmstadt, Germany
3. Agarose	SeaKem®, Rockland, ME, USA
4. DNA extraction kit :Blood mini kit	Qiagen, Germany
5. Disodium Ethylenediaminetetra acetate 2H ₂ O	Amresco, OH, USA
6. Ethidium bromide	Sigma, MO, USA
7. Ethyl alcohol	Merck, Darmstadt, Germany
8. dNTPs	Gibco BRL, NY, USA
9. DNA marker: 1Kb Plus DNA Ladder™	Gibco BRL, NY, USA
10. Isoprep	Robbins Scientific co., CA, USA
11. Potassium chloride	Merck, Darmstadt, Germany
12. Potassium dihydrogen phosphate	Merck, Darmstadt, Germany
13. Sodium chloride	Merck, Darmstadt, Germany
14. Sodium hydrogen phosphate	Merck, Darmstadt, Germany
15. Sodium hydroxide	Merck, Darmstadt, Germany
16. <i>Taq</i> DNA polymerase:	HotStartaq Qiagen, Germany
17. Tris base	Sigma, MO, USA

Appendix D

Reagents and buffers preparation

1. 1M Tris –HCl (pH 8.0)

Tris base	121.1 gm
ddH ₂ O	900 ml
adjust pH to 8.0 with conc. HCl	
add ddH ₂ O up to	1000 ml.
Sterilization by autoclaving and store at room temperature	

2. 0.5 M EDTA (pH 8.0)

EDTA disodium salt	186.1 gm
ddH ₂ O	900 ml
adjust pH to 8.0 with NaOH	
add ddH ₂ O up to	1000 ml.
Sterilization by autoclaving and store at room temperature	

3. TE buffer (pH 8.0)

Tris-HCl (pH 8.0)	10 mM
EDTA (pH8.0)	1 mM
Sterilize by autoclaveing and store at room temperature	

4. Phosphate buffer saline (PBS) pH 7.2

NaCl	8 g
KCl	0.2 g
Na ₂ HPO ₄	1.44 g
KH ₂ PO ₄	0.24 g

Dissolve in 800 ml distilled water

Adjust the pH to 7.2 with HCl and fill up distilled water to 1000 ml

Sterilization by autoclaving and store at room temperature

5. Reagent for electrophoresis

50X Tris-acetate buffer (TAE)

Tris base	242	g
Glacial acetic acid	57.1	g
0.5 M EDTA (pH 8.0)	100	ml
dissolve in 1000 ml distilled water		
sterilization by autoclaving and store at room temperature		

6X gel loading buffetr

bromophenol blue	0.25	%
Glycerol	30	%
Mixed well and store at -20 °C		

10 mg/ml Ethidium bromide

Ethidium bromide	1	g
Dissolve in 100 ml distilled water		
Stir on a magnetic stirrer to ensure the dye has dissolved		
Wrap the container with aluminum foil and store at room temperature		

2% agarose gel

LE agarose	2	g
0.5X TAE	100	ml
melt in microwave		

2.5% agarose gel

LE agarose	2.5	g
0.5X TAE	100	ml
melt in microwave		

1 Kb Plus DNA Ladder

1 µg/µl 1 Kb Plus DNA Ladder™ (Gibco BRL, USA)	5	µl
6X gel loading buffer	10	µl
distilled water	45	µl

CIRRICULUM VITAE

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Education	
1988	Bachelor of Science (Medical Technology), Faculty of Associated Medical sciences, Chiang Mai University, Chiang Mai, Thailand
Work position	
1988 – present	Medical Scientist in laboratory of endocrinology and infertility unit, Department of Obstetrics and Gynecology, Faculty of Medicine, Chiang Mai University, Chiang Mai, Thailand
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