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APPENDIX I

REAGENTS, MATERIALS AND INSTRUMENTS

A. REAGENTS

Absolute ethanol	(Merck, U.S.A)
Acrytamide/bisacrylamide	(Biorad, U.S.A)
Agarose (ultrapure)	(Amresco, U.S.A)
Ammonium persulfate	(Biorad, U.S.A)
Boric acid	(Merck, Germany)
Developer	(Kodak, Japan)
Ethidium bromide	(Amresco, U.S.A)
EDTA	(Amresco, U.S.A)
Fixer	(Kodak, Japan)
Glacial acetic acid	(Merck, Germany)
Methanol	(Merck, U.S.A)
N,N,N,N-tetramethylethylenediamine(TEMED)	(Biorad, U.S.A)
Tris (ultrapure)	(Amresco, U.S.A)
Urea	(Promega, U.S.A)

B. MATERIALS

X-ray film	(Kodak, Japan)
chromatography paper no.3	(Whatmann, England)

C. INSTRUMENTS

BACTEC 460 Instrument	(Becton Dickinson, U.S.A)
CO_2 tank (5-10% CO_2 in air)	(Becton Dickinson, U.S.A)
Horizon 58 horizontal gel electrophoresis system	(BRL, U.S.A)
Hybaid OmniGene thermal cycler	(Hybaid, England)
Sequencing gel model SA-60	(BRL, U.S.A)
Gel dryer	(Biorad, U.S.A)

APPENDIX II

REAGENTS AND PREPARATIONS

1. 0.5 M EDTA , pH 8.0

Disodium ethylene diamine tetraacetate. $2H_2O$	186.1	g
DDW	800.0	ml
Adjust pH to 8.0		
Adjust volume to 1,000 ml		

2. 1 M Tris-HCl , pH 8.0

Tris (ultrapure)	121.1	g
DDW	800.0	ml
Adjust to pH 8.0 by adding conc. HCl	42.0	ml
Sterililize by autoclaving		

3. 50 x Tris-acetate buffer (TAE)

Tris (ultrapure)	242.0	g
Glacial acetic acid	57.1	g
0.5 M EDTA pH 8.0	100.0	ml
Adjust the volume to 1,000 ml with DDW		
Sterilize by autoclaving		

APPENDIX III

I. REAGENTS FOR AGAROSE GEL ELECTROPHORESIS

1. 10 mg/ml Ethedium bromide

Ethidium bromide	1 g
DDW	100 ml

Stir on a magnetic stirrer for several hours to ensure that the dye has dissolved. Wrap the container in aluminum foil or transfer to a dark bottle and store at 4°C.

2. 1.5 % Agarose gel

Agarose (ultrapure)	0.3 g
1 x TAE	20.0 ml
10 mg/ml Ethidium bromide	1.0 µl

II. REAGENTS AND GEL PREPARATION FOR SEQUENCING GEL

1. 6% polyacrylamide gel (60 ml)

urea	25.2 g
10 x Tris-borate buffer	6.0 ml
40% acrylamide / 2% bisacrylamide	9.0 ml
DDW	26.0 ml
TEMED	40.0 µl
10% Ammonium persulfate	400.0 µl

2. 10 x Tris-borate buffer (10 x TBE)

Tris	108.0 g
Boric acid	55.0 g
0.5M EDTA	40.0 ml

Adjust volume to 1,000 ml with DDW

Sterilize by autoclaving

3. 10% Ammonium persulfate

Ammonium persulfate	1.0 g
DDW	10.0 ml

freshly preparation before used

III. REAGENTS AND GEL PREPARATION FOR HETERODUPLEX FORMATION ANALYSIS

1. 10 x annealing buffer (1ml)

5 M Nacl (1 M NaCl)	200 µl
1 M tris HCl pH 8.0 (10 mM tris HCl pH 8.0)	100 µl
0.25 M EDTA pH 8.0	80 µl
DDW	620 µl

2. 7.5 % nondenature polyacrylamide gel (100 ml)

10 x Tris-borate buffer	6.0 ml
40% acrylamide / 2% bisacrylamide	18.8 ml
DDW	75.3 ml
TEMED	70.0 µl
10% Ammonium persulfate	700.0 µl

3. 0.6 x TBE (500 ml)

10 x TBE	30 ml
DDW	470 ml

4. 40% acrylamide (30 : 8) (75 ml)

acrylamide	30.0 g
bisacrylamide	0.8 g
DDW	48.0 ml

Adjust volume to 75 ml with DDW

BIOGRAPHY

Miss Siriwan Yaemnimnual was born on May 25, 1962 in Bangkok, Thailand. She graduated with the Bachelor degree of Science in Medical Technology from the Faculty of Medical Technology, Khonkaen University in 1990. Now she works as a Medical Technologist at Tuberculosis Division, Department of Communicable Disease Control, Ministry of Public Health, Thailand.