



ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่

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APPENDIX A

Nucleotide ambiguity codes

Code	Represents	Complement
A	A	T
C	C	G
G	G	C
T	T	A
M	A or C	K
R	A or G	Y
W	A or T	W
S	C or G	S
Y	C or T	R
K	G or T	M
V	A or C or G	B
H	A or C or T	D
D	A or G or T	H
B	C or G or T	V
X/N	A or C or G or T	X/N
.	not A, C, G or T	-

APPENDIX B**STOCK SOLUTION****1. TE buffer, pH 8.0**

10 mM Tris-HCl, pH 8.0

1 mM EDTA, pH 8.0

2. TAE electrophoresis buffer

50x stock solution, pH~8.5

242 g Tris base

57.1 ml glacial acetic acid

37.2 g Na₂EDTA·2H₂O

H₂O to 1 liter

3. Gel loading buffer

20% (w/v) glycerol

1 mg/ml (w/v) bromphenol blue

1 mM EDTA

4. Solution D

4 M guanidine thiocyanate

25 mM sodium citrate, pH 7.0

0.5% N-lauroylsarcosine

APPENDIX C

Phenol-chloroform extraction

Bacteria growth in Brain heart Infusion broth 100 μ l + D-solution 500 μ l



mix and stand for at least 5 min



add equal volume of Chloroform 100-150 μ l and Phenol 100-150 μ l , mix



centrifuge 13,000 rpm, 5 min



use supernatant ~500 μ l + 2X volume of absolute Ethanol (~1 ml)



gently mix (up side down) and freeze at -80°C, 30 min



centrifuge 13,000 rpm, 10 min



discard supernatant (gently rinse)



2x wash with 75% Ethanol



centrifuge 13,000 rpm, 5 min



dry by air



dilute with TE buffer (pH 8.0) 50 μ l ,use as DNA template

CURRICULUM VITAE

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1982-1988 Certificate of Primary Education,
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- 1988-1991 Certificate for Secondary Education (grade 7-9),
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- 1991-1993 Certificate for Secondary Education (grade 10-12),
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- 1993-1999 Doctor of Veterinary Medicine (D.V.M.),
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- 2001-present Master's Degree Student in Health Science Program
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Professional Career

- 1999 Thonburi Animal Hospital, Bangkok, Thailand
- 1999-2000 Jusco-Ratchada Animal Clinic, Bangkok, Thailand
- 1999-2000 Veterinary Teaching Hospital,
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- 2000-present Instructor, Swine clinic, Clinic for Food Animal,
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Awards/Scholarship

- 2001-present Ministry of University Affair Fund

Professional Qualification

- 1999-present Life Member of The Thai Veterinary Association under
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- 2001-present Life Member of The Faculty of Veterinary Medicine,
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- 2002-present First class certificate for veterinary practitioner,
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- 2002-present Member of The Thai Veterinary Diagnostic Association

Professional Training and Seminar

- 1999 The Second Small Animal Refreshing Course
at Nong-Po Veterinary Teaching Hospital,
Faculty of Veterinary Medicine, Kasetsart University
- 1999 Joint and Orthopedics Management in Small Animal,
Faculty of Veterinary Medicine, Kasetsart University
- 2000 Introduction to Swine Artificial Insemination
Center of Livestock Promotion, Chiang Mai
- 2000 Efficiency of soybean for increasing swine production
Faculty of Veterinary Medicine, Chiang Mai University
- 2001 Introduction to Risk Analysis,
Faculty of Veterinary Medicine, Chiang Mai University
- 2001 Cloning DNA and Virus,
Faculty of Veterinary Medicine, Kasetsart University
- 2001 *In situ* hybridization and Immunohistochemistry technique,
Faculty of Veterinary Medicine, Kasetsart University
- 2001 Workshop on "Epidemiology and Its Application"
Research Institute in Health Sciences, Chiang Mai University

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- 2000 International Conference : Consumer Safety and Residues in
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