

APPENDIX A

Media

MRS (De Man Rogosa Sharpe) broth

Composition per liter:

Beef extract	8.0	g
Yeast extract	4.0	g
glucose	18.5	g
Gelatin	10.0	g
Sodium acetate	3.0	g
Tween-80	1	ml
K ₂ HPO ₄	2	g
ammonium citrate	2	g
MgSO ₄ .7H ₂ O	0.2	g
MnSO ₄ .H ₂ O	0.05	g
Distilled water	1	L

Source : This medium is available as a premixed power from BBL Microbiology Systems

Preparation of MRS broth:

Suspend in 1 liter of distilled water. Boil to dissolve the medium completely. Then, adjust pH to 6.2. Dispense into tubes, bottle, or flask and sterilize by autoclaving at 121 degree Celsius, 15 psi pressure for 15 minute. As for MRS agar with the additional of 13.5 grams agar. Using as indicator by adding bromocresol purple 0.004 per cent (w/v).

NB (Nutrient broth)**Composition per liter:**

Beef extract	3.0	g
Peptone	5.0	g

Preparation of NB:

Suspend in 1 liter of distilled water. Boil to dissolve the medium completely. Then, adjust pH to 7. Dispense into tubes, bottle, or flask and sterilize by autoclaving at 121 degree Celsius, 15 psi pressure for 15 minute. As for NA with the additional of 15 grams agar.

Buffer for plasmid extraction (Anderson and McKay, 1983)**1. Buffer I**

50 mM	Tris base
1 mM	EDTA base
6.7%	Sucros

Adjust pH to 8.0 by glacial acitic acid

2. Buffer II

50 mM	Tris base
0.25 mM	Na ₂ -EDTA

Adjust pH to 8.0 by Sodium hydroxide 10 Molar.

3. Buffer for SDS

50 mM Tris base
 0.25 mM Na₂-EDTA

Adjust pH to 8.0 by glacial acetic acid; after sterilize by autoclave add Sodium dodecyl sulphate (SDS) 20 %

4. Buffer for Lysozyme

2.5 mM Tris base

Adjust pH to 8.0 by glacial acetic acid; after sterilize by autoclave add Lysozyme 20 mg/ml.

5. Buffer Tris HCL

2.0 M Tris HCL

Adjust pH to 7.0 by Sodium hydroxide solution 10 M.

6. Sodium Chloride Solution

5.0 M NaCl

Buffer solution number 1 to 6 sterilize by autoclaving at 121 degree Celsius, 15 psi pressure for 15 minute.

7. Sodium Hydroxide Solution

3.0 N NaOH

Sodium Hydroxide Solution; new prepare every time which use.

8. Phenol Solution

Prepare saturated phenol in 3% sodium chloride, keep at 20°C

9. Chloroform : Iso-amylalcohol

Mix chloroform and Iso-amylalcohol 24:1, keep at room temperature.

10. Buffer solution for electrophoresis (Sambrook *et al.*, 1989)

10.1 50X TAE (Tris-acetate)

Tris base	242.0 g.
Glacial acetic acid	57 ml.
0.5M Na, EDTA (pH 8.0)	100.0 ml.

Adjust volume by distilled water 1,000 ml. Sterilize by autoclaving at 121 degree Celsius, 15 psi pressure for 15 minute.

10.2 10% TBE (Tris-borate)

Tris base	54.0 g.
Boric acid	27.5 ml.
0.5M Na, EDTA (pH 8.0)	20.0 ml.

Adjust volume by distilled water 1,000 ml. Keep at 4°C

APPENDIX B

Code Fermented vegetable and fruit products

FC	Puk-gard-dong
FH	Naw-mai-dong
FO	Ma-kok-dong
FT	Maind-dong
FN	Thai noodle
FK	Puk-sian-dong
FS	Soybean-dong
FD	Kra-tium-dong
FV	Hao-chi-po

Code Markets

01	Mae-tum
02	Sun-pha-khoi
03	Vung-tan
04	Ban-phean
05	Hung-dong
06	Mae-Hea

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่
Copyright© by Chiang Mai University
All rights reserved

APPENDIX C

Appendix 1. Decress effect from organic acid by β -glycerophosphate 0.5 g/ml

No	Isolates	Clear Zone Size (mm.)																																							
		<i>E.coli</i>					<i>B.cereus</i>					<i>S.aureus</i>					<i>S.enteritidis</i>																								
		Sam+H ₂ O					Sam+ β 50%					Sam+H ₂ O					Sam+ β 50%					Sam+H ₂ O					Sam+ β 50%														
		1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5										
1	FC6-01/1	6	7	8	7	7	-	4	6	-	-	5	6	8	5	5	-	-	-	-	-	7	11	7	12	11	5	-	-	-	-	5	5	6	5	6	-	-	-	-	-
2	FC2-01/2	5	7	8	7	7	-	4	4	-	-	4	6	8	6	6	-	-	-	-	-	8	12	8	13	12	7	-	-	-	-	6	6	6	5	6	-	-	-	-	-
3	FH5-01/6	5	7	8	7	8	-	4	6	-	-	4	6	9	9	9	-	-	-	-	-	8	10	9	11	11	7	-	-	-	-	6	7	7	5	6	-	-	-	-	-
4	FH6-01/2	7	10	8	8	8	5	8	4	-	-	6	8	9	9	9	3	6	-	-	-	12	12	9	12	12	10	10	-	-	-	7	8	7	7	8	-	-	-	-	-
5	FC5-01/3	5	7	6	7	6	6	-	-	-	-	5	5	4	5	5	-	-	-	-	-	12	8	8	8	8	-	-	-	-	-	7	10	11	10	9	-	-	-	-	-
6	FC4-01/1	7	10	10	10	9	5	6	6	6	6	7	7	11	8	11	5	5	4	5	5	13	10	10	11	10	9	8	8	8	7	12	10	11	10	9	5	7	5	5	5
7	FH6-02/4	6	12	8	12	10	3	6	6	5	5	7	7	13	8	13	3	4	5	4	6	13	10	10	12	11	8	-	9	7	7	11	10	10	10	9	5	4	4	5	5
8	FC4-01/7	6	12	8	8	8	3	5	-	-	-	3	8	12	8	9	3	-	-	-	-	7	10	9	11	11	7	-	-	-	-	10	10	8	10	9	-	-	-	-	-
9	FC4-01/4	7	8	10	10	8	3	6	6	5	6	8	13	10	10	10	4	8	5	5	5	10	10	10	12	10	10	7	6	7	7	10	12	11	12	9	7	7	7	7	7
10	FC6-01/2	6	10	10	10	10	5	7	7	6	6	5	8	10	10	12	5	7	5	5	5	10	10	13	13	10	10	8	8	6	6	10	13	11	10	9	7	6	6	7	6
11	FS2-01/6	5	8	8	8	8	3	4	6	-	4	4	3	8	8	8	3	-	-	-	-	8	8	10	12	12	7	-	-	-	-	8	10	11	12	12	-	-	-	-	-
12	FH5-01/2	5	10	9	9	8	-	4	6	-	-	4	3	8	8	7	-	-	-	-	-	7	8	10	12	12	-	-	-	-	-	8	10	11	12	12	-	-	-	-	-
13	FC4-01/3	5	8	8	8	8	-	-	-	-	-	4	4	5	5	6	3	2	-	-	-	8	12	8	12	10	5	-	-	-	-	7	7	7	7	7	-	-	-	-	-
14	FC2-01/4	4	8	8	8	8	-	-	-	-	-	5	6	5	6	6	2	-	-	-	-	7	10	7	10	10	4	-	-	-	-	7	7	7	7	7	-	-	-	-	-
15	FH5-01/5	4	7	9	9	9	-	-	3	-	-	7	4	4	5	6	3	-	-	-	-	7	12	8	12	12	4	-	-	-	-	4	7	7	7	7	-	-	-	-	-

Appendix 1. Decress effect from organic acid by β -glycerophosphate 0.5 g/ml (Continuous)

No.	Isolates	Clear Zone Size (mm.)																																							
		<i>E.coli</i>										<i>B.cereus</i>										<i>S.aureus</i>										<i>S.enteritidis</i>									
		Sam+H ₂ O					Sam+ β 50%					Sam+H ₂ O					Sam+ β 50%					Sam+H ₂ O					Sam+ β 50%					Sam+H ₂ O					Sam+ β 50%				
		1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
16	FS2-01/3	5	9	11	11	11	4	-	6	5	7	9	8	6	8	8	5	5	3	3	3	8	15	8	14	14	5	-	7	-	-	9	9	8	7	7	5	7	6	7	7
17	FC5-01/4	7	7	8	8	8	3	-	3	-	-	4	6	3	6	7	-	-	-	-	-	8	8	7	10	8	3	-	-	-	-	7	7	8	7	8	-	-	-	-	-
18	FH6-01/2	6	7	8	7	7	3	-	3	-	-	4	5	3	8	8	-	-	-	-	-	9	8	7	10	10	4	-	-	-	-	7	7	8	8	8	-	-	-	-	-
19	FH6-02/1	6	9	8	8	8	4	-	5	-	-	4	7	5	8	7	-	2	-	-	-	9	12	7	12	11	5	-	-	-	-	7	7	8	8	8	-	-	-	-	-
20	FC5-01/1	7	9	8	8	8	4	-	3	-	-	3	4	7	8	7	-	2	-	-	-	7	12	7	12	12	5	-	-	-	-	7	7	7	7	7	-	-	-	-	-
21	FC5-01/2	4	7	7	6	7	-	-	-	-	-	4	6	6	6	6	-	-	-	-	-	7	8	6	7	7	-	-	-	-	-	7	8	8	8	8	-	-	-	-	-
22	FC6-01/4	5	8	7	7	8	-	-	3	-	-	5	6	7	8	7	-	-	-	-	-	6	10	6	8	8	-	-	-	-	-	7	7	7	7	7	-	-	-	-	-
23	FC6-01/3	5	8	8	7	7	-	-	4	-	-	8	5	8	7	7	-	-	-	-	-	9	10	8	8	8	-	-	-	-	-	8	9	9	9	9	-	-	-	-	-
24	FS5-01/1	4	8	9	8	7	-	-	6	-	-	7	4	8	8	7	-	-	-	-	-	10	10	8	8	8	-	-	-	-	-	7	9	9	9	9	-	-	-	-	-
25	FH6-02/3	5	7	6	6	7	-	-	-	-	-	5	5	5	5	5	2	-	-	-	-	8	5	7	8	7	-	-	-	-	-	4	5	9	9	7	-	-	-	-	-
26	FH5-01/4	5	7	6	7	7	-	-	-	-	-	5	5	5	5	5	2	2	-	-	-	9	10	8	8	8	-	-	-	-	-	5	5	8	8	8	-	-	-	-	-

CIRRICULUM VITAE

Name	Miss Nuchira Yasanga
Date of Birth	18 June 1982
Academic Background	B.S. (Applied Biology), Department of Biology, Faculty of Science, Chiang Mai Rajabhat University, 2001-2004
Poster presentation	Screening of Bacteriocin-Producing Lactic Acid Bacteria from Fermented Vegetable and Fruit products. Shown at The 19 th Annual Meeting of the Thai Society for Biotechnology “TSB 2007: Biotechnology for Gross National Happiness”

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่
Copyright© by Chiang Mai University
All rights reserved