APPENDICES

Appendix A

Basal MRS broth

Peptone	10	g/l
Yeast extract	5	g/l
Sodium acetate	5	g/l
Dipotassium hydrogen phosphate	2	g/l
Ammonium citrate	2	g/l
Magnesium sulphate	0.2	g/l
Manganese sulphate	0.05	g/l
Tween 80	1	ml

The medium pH was adjusted to 6.5 and sterilized at 121 ^{o}C for 15 min

Appendix B

Phosphate buffer pH 5.8-8.0 (Gomori, 1990)

Stock solution

A: 0.2 M NaH_2PO_4

B: 0.2 M Na_2HPO_4

Mix appropriate volumes of stock and add an equal volume of distilled water to make a final 0.1 M phosphate buffer solution.

Table 17. Proportion between NaH_2PO_4 (A) and Na_2HPO_4 (B)

A (ml)	B (ml)	pH
92.0	8.0	5.8
87.7	12.3	6.0
81.5	18.5	6.2
68.5	31.5	6.5
62.5	37.5	6.6
56.5	43.5	6.7
51.0	49.5	6.8
45.0	55.0	6.9
39.0	61.0	7.0
33.0	67.0	7.1
28.0	72.0	7.2
23.0	77.0	7.3
19.0	81.0	7.4
16.0	84.0	7.5
8.5	91.5	7.8
5.3	94.7	8.0

APPENDIX C

Identification Results

AN MicroPlate™

Water		N-acetyl-D-Galactosamine		N-Acetyl-D-Glucosamine		N-Acetyl-β-D Mannosamine		Adonitol		Amygdalin		D-Arabitol		Arbutin		D-Cellobiose		α-Cyclodextrin		β-Cyclodextrin		Dextrin	
-	-	-		-	-	-		-	-	-		BL	-	-		-	-	-		-		+	
Dulcitol		i-Erytritol		D-Fructose		L-Fucose		D-Galactose		D-Galacturonic Acid		Gentibiose		D-Gluconic Acid		D-Galactosaminic Acid		α-D-Glucose		Glucose-1-Phosphate		Glucose 6-Phosphate	
-	-	-	-	+	+	-	-	+	-	+		-	-	-		-		+	+	-		BL	
Glycerol		D,L-α-Glycerol Phosphate		m-Inositol		α-D-Lactose		Lactulose		Maltose		Maltotriose		D-Mannitol		D-Mannose		D-Melezitose		D-Mellibiose		3-Methyl-D-Glucose	
+	-	-		-	-	-	+	+		+	+	-		+	-	BL	-	-	-	+	+	+	
α-Methyl-D-Galactoside		β-Methyl-D-Galctoside		α-Methyl-D-Glucoside		β-Methyl-D-Glucoside		Palatinose		D-Raffinose		L-Rhamnose		Salicin		D-Sorbitol		Stachyose		Sucrose		D-Treharose	
+		+		-		-		+		+	+	-	-	-	-	-	-	+		BL	+	-	+
Turanose		Acetic Acid		Formic Acid		Fumaric Acid		Glyoxylic Acid		α-Hydroxybutyric Acid		β-Hydroxybutyric Acid		Itaconic Acid		α-Ketobutyric Acid		α-Ketovaleric Acid		D,L-Lactic Acid		L-Lactic Acid	
+	-	-		-		-		-		+		-		-		-		-		+		+	
D-Lactic Acid Methyl Ester		D-Malic Acid		L-Malic Acid		Propionic Acid		Pyruvic Acid		Pyruvic Acid Methyl ester		D-Saccharic Acid		Succinamic Acid		Succinic Acid		Succinic Acid Mono-Methyl Ester		m-Tartaric Acid		Urocanic Acid	
+		-		-		-		-		-		-		-		-		-		-		-	
L-Alaninamide		L-Alanine		L-Alanyl Glutamine		L-Alanyl-L-Histidin		L-Alanyl-L-Threonine		L-Asparagine		L-Glutamic Acid		L-Glutamine		Glycyl-L-Aspartic Acid		Glycyl-L-Glutamine		Glycyl-L-Methionine		Glycyl-L-Proline	
-		-		-		-		-		-		-		-		-		-		-		-	
L-Methionine		L-Phynylalanine		L-Serine		L-Threonine		L-Valine		L-Valine plus L-Aspartic Acid		2'-Deoxy Adenosine		Inosine		Thymidine		Uridine		Thymidine-5' Monophosphate		Uridine-5'-Monophosphate	
-		-		-		-		-		-		-		+		-		+		-		-	

Strain no. : FTL 2311
Microlog Database identified as : *Lactobacillus reuteri* (89% Prob. 0.562 SIM; 5.68 DIST)
API 50CHL identified as : *Lactobacillus buchneri* (66% id.), *L.fermentum* (23.3% id.), *L.cellobiosus* (8.7% id.), *L.brevis* (1.8% id.)

AN MicroPlate™

Water		N-acetyl-D-Galactosamine		N-Acetyl-D-Glucosamine		N-Acetyl-β-D Mannosamine		Adonitol		Amygdalin		D-Arabitol		Arbutin		D-Cellobiose		α-Cyclodextrin		β-Cyclodextrin		Dextrin	
-	-	-		-	-	-		-	-	-		-	-	-		-	-	-		-		+	
Dulcitol		i-Erytritol		D-Fructose		L-Fucose		D-Galactose		D-Galacturonic Acid		Gentibiose		D-Gluconic Acid		D-Galactosaminic Acid		α-D-Glucose		Glucose-1-Phosphate		Glucose 6-Phosphate	
-	-	-	-	BL	+	-	-	+	+	MP		-	-	-		-		+	+	+		+	
Glycerol		D,L-α-Glycerol Phosphate		m-Inositol		α-D-Lactose		Lactulose		Maltose		Maltotriose		D-Mannitol		D-Mannose		D-Melezitose		D-Mellibiose		3-Methyl-D-Glucose	
+	-	-		-	-	+	+	BL		+	+	-		BL	-	-	-	-	-	+	+	+	
α-Methyl-D-Galactoside		β-Methyl-D-Galctoside		α-Methyl-D-Glucoside		β-Methyl-D-Glucoside		Palatinose		D-Raffinose		L-Rhamnose		Salicin		D-Sorbitol		Stachyose		Sucrose		D-Treharose	
+		+		-		-		BL		BL	+	-	-	-	-	-	-	MP		+	+	MP	+
Turanose		Acetic Acid		Formic Acid		Fumaric Acid		Glyoxylic Acid		α-Hydroxybutyric Acid		β-Hydroxybutyric Acid		Itaconic Acid		α-Ketobutyric Acid		α-Ketovaleric Acid		D,L-Lactic Acid		L-Lactic Acid	
MN	-	-		-		-		-		+		-		-		-		-		+		+	
D-Lactic Acid Methyl Ester		D-Malic Acid		L-Malic Acid		Propionic Acid		Pyruvic Acid		Pyruvic Acid Methyl ester		D-Saccharic Acid		Succinamic Acid		Succinic Acid		Succinic Acid Mono-Methyl Ester		m-Tartaric Acid		Urocanic Acid	
+		-		-		-		-		-		-		-		-		-		-		-	
L-Alaninamide		L-Alanine		L-Alanyl Glutamine		L-Alanyl-L-Histidin		L-Alanyl-L-Threonine		L-Asparagine		L-Glutamic Acid		L-Glutamine		Glycyl-L-Aspartic Acid		Glycyl-L-Glutamine		Glycyl-L-Methionine		Glycyl-L-Proline	
-		-		-		-		-		-		-		-		-		-		-		-	
L-Methionine		L-Phynylalanine		L-Serine		L-Threonine		L-Valine		L-Valine plus L-Aspartic Acid		2'-Deoxy Adenosine		Inosine		Thymidine		Uridine		Thymidine-5' Monophosphate		Uridine-5'-Monophosphate	
-		-		-		-		-		-		-		+		-		+		-		-	

Strain no. : FP 3007
Microlog Database identified as :*Lactobacillus fermentum* (95% Prob.; 0.524 SIM; 7.02 DIST)
API 50CHL identified as :*Lactobacillus fermentum* (99.9% id.)

AN MicroPlate™

Water			N-acetyl-D-Galactosamine			N-Acetyl-D-Glucosamine			N-Acetyl-β-D Mannosamine			Adonitol			Amygdalin			D-Arabitol			Arbutin			D-Cellobiose			α-Cyclodextrin			β-Cyclodextrin			Dextrin	
-	-		-			-	-		-			-	-		-			-	-		-			-	-		-			-			+	
Dulcitol			i-Erytritol			D-Fructose			L-Fucose			D-Galactose			D-Galacturonic Acid			Gentibiose			D-Gluconic Acid			D-Galactosaminic Acid			α-D-Glucose			Glucose-1-Phosphate			Glucose 6-Phosphate	
-	-		-	-		+	+		-	-		+	+		BL			-	-		-			-			+	+		BL			+	
Glycerol			D,L-α-Glycerol Phosphate			m-Inositol			α-D-Lactose			Lactulose			Maltose			Maltotriose			D-Mannitol			D-Mannose			D-Melezitose			D-Mellibiose			3-Methyl-D-Glucose	
+	-		-			-	-		BL	-		BL			+	+		-			BL	-		-	-		-	-		+	+		+	
α-Methyl-D-Galactoside			β-Methyl-D-Galctoside			α-Methyl-D-Glucoside			β-Methyl-D-Glucoside			Palatinose			D-Raffinose			L-Rhamnose			Salicin			D-Sorbitol			Stachyose			Sucrose			D-Treharose	
MP			+			-			-			BL			BL	+		-	-		-	-		-	-		MP			+	+		MP	+
Turanose			Acetic Acid			Formic Acid			Fumaric Acid			Glyoxylic Acid			α-Hydroxybutyric Acid			β-Hydroxybutyric Acid			Itaconic Acid			α-Ketobutyric Acid			α-Ketovaleric Acid			D,L-Lactic Acid			L-Lactic Acid	
+	-		-			-			-			-			+			-			-			-			-			+			+	
D-Lactic Acid Methyl Ester			D-Malic Acid			L-Malic Acid			Propionic Acid			Pyruvic Acid			Pyruvic Acid Methyl ester			D-Saccharic Acid			Succinamic Acid			Succinic Acid			Succinic Acid Mono-Methyl Ester			m-Tartaric Acid			Urocanic Acid	
+			-			-			-			-			BL			-			-			-			-			-			-	
L-Alaninamide			L-Alanine			L-Alanyl Glutamine			L-Alanyl-L-Histidin			L-Alanyl-L-Threonine			L-Asparagine			L-Glutamic Acid			L-Glutamine			Glycyl-L-Aspartic Acid			Glycyl-L-Glutamine			Glycyl-L-Methionine			Glycyl-L-Proline	
-			-			-			-			-			-			-			-			-			-			-			-	
L-Methionine			L-Phynylalanine			L-Serine			L-Threonine			L-Valine			L-Valine plus L-Aspartic Acid			2'-Deoxy Adenosine			Inosine			Thymidine			Uridine			Thymidine-5' Monophosphate			Uridine-5'-Monophosphate	
-			-			-			-			-			-			-			+			-			+			-			-	

Strain no. :FP 3010

Microlog Database identified as :*Lactobacillus fermentum* (100% Prob.; 0.699 SIM; 4.55 DIST)

API 50CHL identified as :*Lactobacillus fermentum* (99.9% id.)

AN MicroPlate™

Water	N-acetyl-D-Galactosamine	N-Acetyl-D-Glucosamine	N-Acetyl-β-D Mannosamine	Adonitol	Amygdalin	D-Arabitol	Arbutin	D-Cellobiose	α-Cyclodextrin	β-Cyclodextrin	Dextrin
Dulcitol	i-Erytritol	D-Fructose	L-Fucose	D-Galactose	D-Galacturonic Acid	Gentibiose	D-Gluconic Acid	D-Galactosaminic Acid	α-D-Glucose	Glucose-1-Phosphate	Glucose 6-Phosphate
Glycerol	D,L-α-Glycerol Phosphate	m-Inositol	α-D-Lactose	Lactulose	Maltose	Maltotriose	D-Mannitol	D-Mannose	D-Melezitose	D-Mellibiose	3-Methyl-D-Glucose
α-Methyl-D-Galactoside	β-Methyl-D-Galctoside	α-Methyl-D-Glucoside	β-Methyl-D-Glucoside	Palatinose	D-Raffinose	L-Rhamnose	Salicin	D-Sorbitol	Stachyose	Sucrose	D-Treharose
Turanose	Acetic Acid	Formic Acid	Fumaric Acid	Glyoxylic Acid	α-Hydroxybutyric Acid	β-Hydroxybutyric Acid	Itaconic Acid	α-Ketobutyric Acid	α-Ketovaleric Acid	D,L-Lactic Acid	L-Lactic Acid
D-Lactic Acid Methyl Ester	D-Malic Acid	L-Malic Acid	Propionic Acid	Pyruvic Acid	Pyruvic Acid Methyl ester	D-Saccharic Acid	Succinamic Acid	Succinic Acid	Succinic Acid Mono-Methyl Ester	m-Tartaric Acid	Urocanic Acid
L-Alaninamide	L-Alanine	L-Alanyl Glutamine	L-Alanyl-L-Histidin	L-Alanyl-L-Threonine	L-Asparagine	L-Glutamic Acid	L-Glutamine	Glycyl-L-Aspartic Acid	Glycyl-L-Glutamine	Glycyl-L-Methionine	Glycyl-L-Proline
L-Methionine	L-Phynylalanine	L-Serine	L-Threonine	L-Valine	L-Valine plus L-Aspartic Acid	2'-Deoxy Adenosine	Inosine	Thymidine	Uridine	Thymidine-5' Monophosphate	Uridine-5'-Monophosphate

Strain no. :FS 8510
Microlog Database identified as :……
API 50CHL identified as : *Lactobacillus plantarum* (99.6% id.)
PCR result : *Lactobacillus plantarum*

AN MicroPlate™

Water		N-acetyl-D-Galactosamine		N-Acetyl-D-Glucosamine		N-Acetyl-β-D Mannosamine		Adonitol		Amygdalin		D-Arabitol		Arbutin		D-Cellobiose		α-Cyclodextrin		β-Cyclodextrin		Dextrin	
-	-	-		+	+	+		-	-	+		-	-	BL		+	+	-		-		BL	
Dulcitol		i-Erytritol		D-Fructose		L-Fucose		D-Galactose		D-Galacturonic Acid		Gentibiose		D-Gluconic Acid		D-Galactosaminic Acid		α-D-Glucose		Glucose-1-Phosphate		Glucose 6-Phosphate	
-	-	-	-	+	+	-	-	BL	+	-		BL	+	-		-		+	+	-		-	
Glycerol		D,L-α-Glycerol Phosphate		m-Inositol		α-D-Lactose		Lactulose		Maltose		Maltotriose		D-Mannitol		D-Mannose		D-Melezitose		D-Mellibiose		3-Methyl-D-Glucose	
-	-	-		-	-	BL	+	+		+	+	-		+	+	+	+	-	-	BL	+	-	
α-Methyl-D-Galactoside		β-Methyl-D-Galctoside		α-Methyl-D-Glucoside		β-Methyl-D-Glucoside		Palatinose		D-Raffinose		L-Rhamnose		Salicin		D-Sorbitol		Stachyose		Sucrose		D-Treharose	
-		MP		-		+		+		-	+	-	-	+	+	MP	+	-		+	+	+	+
Turanose		Acetic Acid		Formic Acid		Fumaric Acid		Glyoxylic Acid		α-Hydroxybutyric Acid		β-Hydroxybutyric Acid		Itaconic Acid		α-Ketobutyric Acid		α-Ketovaleric Acid		D,L-Lactic Acid		L-Lactic Acid	
+	+	-		-		-		-		+		-		-		-		-		BL		+	
D-Lactic Acid Methyl Ester		D-Malic Acid		L-Malic Acid		Propionic Acid		Pyruvic Acid		Pyruvic Acid Methyl ester		D-Saccharic Acid		Succinamic Acid		Succinic Acid		Succinic Acid Mono-Methyl Ester		m-Tartaric Acid		Urocanic Acid	
+		-		BL		-		-		MP		-		-		-		-		-		-	
L-Alaninamide		L-Alanine		L-Alanyl Glutamine		L-Alanyl-L-Histidin		L-Alanyl-L-Threonine		L-Asparagine		L-Glutamic Acid		L-Glutamine		Glycyl-L-Aspartic Acid		Glycyl-L-Glutamine		Glycyl-L-Methionine		Glycyl-L-Proline	
-		-		-		-		-		-		-		-		-		-		-		-	
L-Methionine		L-Phynylalanine		L-Serine		L-Threonine		L-Valine		L-Valine plus L-Aspartic Acid		2'-Deoxy Adenosine		Inosine		Thymidine		Uridine		Thymidine-5' Monophosphate		Uridine-5'-Monophosphate	
-		-		-		-		-		-		-		-		-		-		-		-	

Strain no. : FS 9401
Microlog Database identified as : *Lactobacillus* sp.
API 50CHL identified as :*Lactobacillus plantarum* (99.9% id.)
PCR result : *Lactobacillus plantarum*

AN MicroPlate™

Water		N-acetyl-D-Galactosamine		N-Acetyl-D-Glucosamine		N-Acetyl-β-D Mannosamine		Adonitol		Amygdalin		D-Arabitol		Arbutin		D-Cellobiose		α-Cyclodextrin		β-Cyclodextrin		Dextrin	
-	-	-		-	-	-		-	-	-		-	-	-		BL	-	-		-		+	
Dulcitol		i-Erytritol		D-Fructose		L-Fucose		D-Galactose		D-Galacturonic Acid		Gentibiose		D-Gluconic Acid		D-Galactosaminic Acid		α-D-Glucose		Glucose-1-Phosphate		Glucose 6-Phosphate	
-	-	-	-	+	+	-	-	+	-	+		-	-	-		-		+	+	-		+	
Glycerol		D,L-α-Glycerol Phosphate		m-Inositol		α-D-Lactose		Lactulose		Maltose		Maltotriose		D-Mannitol		D-Mannose		D-Melezitose		D-Mellibiose		3-Methyl-D-Glucose	
+	-	BL		-	-	+	-	+		+	+	+		+	-	-	-	-	-	+	+	+	
α-Methyl-D-Galactoside		β-Methyl-D-Galctoside		α-Methyl-D-Glucoside		β-Methyl-D-Glucoside		Palatinose		D-Raffinose		L-Rhamnose		Salicin		D-Sorbitol		Stachyose		Sucrose		D-Treharose	
+		+		-		-		+		+	+	-	-	-	-	-	-	+		+	+	MP	+
Turanose		Acetic Acid		Formic Acid		Fumaric Acid		Glyoxylic Acid		α-Hydroxybutyric Acid		β-Hydroxybutyric Acid		Itaconic Acid		α-Ketobutyric Acid		α-Ketovaleric Acid		D,L-Lactic Acid		L-Lactic Acid	
+	-	-		-		-		-		+		-		-		-		-		+		+	
D-Lactic Acid Methyl Ester		D-Malic Acid		L-Malic Acid		Propionic Acid		Pyruvic Acid		Pyruvic Acid Methyl ester		D-Saccharic Acid		Succinamic Acid		Succinic Acid		Succinic Acid Mono-Methyl Ester		m-Tartaric Acid		Urocanic Acid	
+		-		-		-		-		-		-		-		-		-		-		-	
L-Alaninamide		L-Alanine		L-Alanyl Glutamine		L-Alanyl-L-Histidin		L-Alanyl-L-Threonine		L-Asparagine		L-Glutamic Acid		L-Glutamine		Glycyl-L-Aspartic Acid		Glycyl-L-Glutamine		Glycyl-L-Methionine		Glycyl-L-Proline	
-		-		-		-		-		-		-		-		-		-		-		-	
L-Methionine		L-Phynylalanine		L-Serine		L-Threonine		L-Valine		L-Valine plus L-Aspartic Acid		2'-Deoxy Adenosine		Inosine		Thymidine		Uridine		Thymidine-5' Monophosphate		Uridine-5'-Monophosphate	
-		-		-		-		-		-		-		+		-		+		-		MP	

Strain no. : FS 9905

Microlog Database identified as : *Lactobacillus reuteri* (100% Prob.; 0.511 SIM ; 7.78 DIST)

API 50CHL identified as :*Lactobacillus cellobiosus* (51.2% id.); *L.fermentum* (46.7% id.)

AN MicroPlate™

Water		N-acetyl-D-Galactosamine		N-Acetyl-D-Glucosamine		N-Acetyl-β-D Mannosamine		Adonitol		Amygdalin		D-Arabitol		Arbutin		D-Cellobiose		α-Cyclodextrin		β-Cyclodextrin		Dextrin	
-	-	-		-	-	-		-	-	-		-	-	-		BL	-	-		-		+	
Dulcitol		i-Erytritol		D-Fructose		L-Fucose		D-Galactose		D-Galacturonic Acid		Gentibiose		D-Gluconic Acid		D-Galactosaminic Acid		α-D-Glucose		Glucose-1-Phosphate		Glucose 6-Phosphate	
-	-	-	-	+	+	-	-	+	-	+		-	-	-		-		+	+	-		+	
Glycerol		D,L-α-Glycerol Phosphate		m-Inositol		α-D-Lactose		Lactulose		Maltose		Maltotriose		D-Mannitol		D-Mannose		D-Melezitose		D-Mellibiose		3-Methyl-D-Glucose	
+	-	-		-	-	+	-	+		+	+	+		+	-	-	-	-	-	+	+	+	
α-Methyl-D-Galactoside		β-Methyl-D-Galctoside		α-Methyl-D-Glucoside		β-Methyl-D-Glucoside		Palatinose		D-Raffinose		L-Rhamnose		Salicin		D-Sorbitol		Stachyose		Sucrose		D-Treharose	
+		+		-		-		+		+	+	BL	-	-	-	-	-	+		+	+	-	+
Turanose		Acetic Acid		Formic Acid		Fumaric Acid		Glyoxylic Acid		α-Hydroxybutyric Acid		β-Hydroxybutyric Acid		Itaconic Acid		α-Ketobutyric Acid		α-Ketovaleric Acid		D,L-Lactic Acid		L-Lactic Acid	
+	-	-		-		-		-		+		-		-		-		-		+		+	
D-Lactic Acid Methyl Ester		D-Malic Acid		L-Malic Acid		Propionic Acid		Pyruvic Acid		Pyruvic Acid Methyl ester		D-Saccharic Acid		Succinamic Acid		Succinic Acid		Succinic Acid Mono-Methyl Ester		m-Tartaric Acid		Urocanic Acid	
+		-		-		-		-		-		-		-		-		-		-		-	
L-Alaninamide		L-Alanine		L-Alanyl Glutamine		L-Alanyl-L-Histidin		L-Alanyl-L-Threonine		L-Asparagine		L-Glutamic Acid		L-Glutamine		Glycyl-L-Aspartic Acid		Glycyl-L-Glutamine		Glycyl-L-Methionine		Glycyl-L-Proline	
-		-		-		-		-		-		-		-		-		-		-		-	
L-Methionine		L-Phynylalanine		L-Serine		L-Threonine		L-Valine		L-Valine plus L-Aspartic Acid		2'-Deoxy Adenosine		Inosine		Thymidine		Uridine		Thymidine-5' Monophosphate		Uridine-5'-Monophosphate	
-		-		-		-		-		-		-		+		-		+		-		MP	

Strain no. : FS 9913
Microlog Database identified as : *Lactobacillus reuteri* (100% Prob.; 0.572 SIM ; 6.69 DIST)
API 50CHL identified as : *Lactobacillus cellobiosus* (51.2% id.); *L. fermentum* (46.7% id.)

AN MicroPlate™

Water		N-acetyl-D-Galactosamine		N-Acetyl-D-Glucosamine		N-Acetyl-β-D Mannosamine		Adonitol		Amygdalin		D-Arabitol		Arbutin		D-Cellobiose		α-Cyclodextrin		β-Cyclodextrin		Dextrin	
-	-	-		-	-	-		-	-	-		-	-	-		-	-	-		-		+	
Dulcitol		i-Erytritol		D-Fructose		L-Fucose		D-Galactose		D-Galacturonic Acid		Gentibiose		D-Gluconic Acid		D-Galactosaminic Acid		α-D-Glucose		Glucose-1-Phosphate		Glucose 6-Phosphate	
-	-	-	-	BL	+	-	-	+	+	BL		-	-	-		-		+	+	+		+	
Glycerol		D,L-α-Glycerol Phosphate		m-Inositol		α-D-Lactose		Lactulose		Maltose		Maltotriose		D-Mannitol		D-Mannose		D-Melezitose		D-Mellibiose		3-Methyl-D-Glucose	
+	-	-		-	-	+	-	+		+	+	-		MP	-	-	-	-	-	+	+	+	
α-Methyl-D-Galactoside		β-Methyl-D-Galctoside		α-Methyl-D-Glucoside		β-Methyl-D-Glucoside		Palatinose		D-Raffinose		L-Rhamnose		Salicin		D-Sorbitol		Stachyose		Sucrose		D-Treharose	
+		+		-		-		BL		+	+	-	-	-	-	-	-	MP		+	+	MP	+
Turanose		Acetic Acid		Formic Acid		Fumaric Acid		Glyoxylic Acid		α-Hydroxybutyric Acid		β-Hydroxybutyric Acid		Itaconic Acid		α-Ketobutyric Acid		α-Ketovaleric Acid		D,L-Lactic Acid		L-Lactic Acid	
+	-	-		-		-		-		+		-		-		-		-		+		+	
D-Lactic Acid Methyl Ester		D-Malic Acid		L-Malic Acid		Propionic Acid		Pyruvic Acid		Pyruvic Acid Methyl ester		D-Saccharic Acid		Succinamic Acid		Succinic Acid		Succinic Acid Mono-Methyl Ester		m-Tartaric Acid		Urocanic Acid	
+		-		-		-		-		-		-		-		-		-		-		-	
L-Alaninamide		L-Alanine		L-Alanyl Glutamine		L-Alanyl-L-Histidin		L-Alanyl-L-Threonine		L-Asparagine		L-Glutamic Acid		L-Glutamine		Glycyl-L-Aspartic Acid		Glycyl-L-Glutamine		Glycyl-L-Methionine		Glycyl-L-Proline	
-		-		-		-		-		-		-		-		-		-		-		-	
L-Methionine		L-Phynylalanine		L-Serine		L-Threonine		L-Valine		L-Valine plus L-Aspartic Acid		2'-Deoxy Adenosine		Inosine		Thymidine		Uridine		Thymidine-5' Monophosphate		Uridine-5'-Monophosphate	
-		-		-		-		-		-		-		+		-		+		-		-	

Strain no. :FS 10101A

Microlog Database identified as : *Lactobacillus fermentum* (89% Prob.; 0.527 SIM; 6.32 DIST)

API 50CHL identified as : *Lactobacillus fermentum* (99.9% id.)

CURRICULUM VITAE

Name Miss Srikanjana Klayraung

Birthday 2 July 1971

Education

-High School Certificate, Sriboonyanon School, Nonthaburi

-Bachelor of Science in Microbiology, Faculty of Science, Kasetsart University, 1993

-Master of Science in Microbiology, Faculty of Science, Kasetsart University, 1998

Working Experience

1993-1994 : Microbiologist, Bangkok Ranch Company Limited

: Research Assistant, Department of Microbiology, Faculty of Science, Kasetsart University

1998-present : Lecturer of Department of Biology, Faculty of Science, Maejo University

Publications

Klayraung, S., Sirithunyalug, J., Kneifel, W., Viernstein, H., Okonogi, S. Isolation and Characterization of Lactic Acid Bacteria from Bioresources in Thailand. Poster Presentation. BioThailand 2005, The Queen Sirikit National Convention Center, Bangkok, Thailand, November 2-5, 2005.

Klayraung, S., Viernstein, H., Sirithunyalug, J., Okonogi, S. Survival of Lactobacilli in formulated tablets. Poster Presentation. RGJ-Ph.D. Congress VIII, Chonburi, Thailand, April 20-22, 2007

Klayraung, S., Viernstein, H., Okonogi, S. Bioencapsulation of Lactic Acid Bacteria Using Inulin and Banana Powder as Excipients. Poster Presentation. XV International workshop on Bioencapsulation and COST865 Meeting, Vienna, Austria, September 6-8, 2007

Kiss, H., Koegler, B., Petricevic, L., Sauerzapt, I., **Klayraung, S.**, Domig, K., Viernstein, H., Kneifel, W. 2007. Vaginal Lactobacillus microbiota of healthy women in late first trimester of pregnancy. *Brit. J. Obstet. Gynaec*., 114 : 1402-1407.

Klayraung, S., Sirithunyalug J., Viernstein, H., Okonogi, S. 2008. Comparative probiotic properties of Lactobacillus fermentum isolated from Thai traditional fermented foods: Miang and Nham. *Res. J. Biol. Sci.,* 3 : 1119-1124.

Klayraung, S., Viernstein, H., Sirithunyalug, J., Okonogi, S. 2008. Probiotic Properties of Lactobacilli Isolated from Thai Traditional Food**.** *Sci Pharm*. in press. doi:10.3797/scipharm.0806-11