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(12)

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(B1)

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C12N 1/20

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(11)  
(24)

2002 09 28  
10 - 0354315  
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10 - 2000 - 0017728  
2000 04 04

(65)  
(43)

2001 - 0100272  
2001 11 14

(73)

134

(72)

234

105 1607

319 105 803

(74)

:

(54)

가 , , pH , , 1

KHANIN - ME1, ,

1 16S RNA

2

3

(*Lactobacillus* sp.)

가

(lactic acid)

(homo)

(hetero)

85%

0%

가

가 ,

가

5

, pH

가

(bacteriocin)

(acidolin),

(acidophilin),

(diacetyl),

(reuterin)

가

가

(*Lactobacillus*),  
(*Enterococcus*)

(*Lactococcus*),

(*Leuconostoc*),

(*Pediococcus*)

(*Lact*  
(*E*

198Da

, 121

15

, 4

30

2.8

284Da , 280nm

(*Lb. lactis*),

(*Lb. plantarum*)

pH

가

, pH

가 ,

(ribonucleotide reductase)

(thio

doxin)

148Da

(protozoa)

가

dophilus)가 1970 (Lb. aci

(vaginal track)

7,399 (E. coli) O157:H7

(Lactobacillus)

(Lactobacillus sp.) ME1

FCC 11155

2000 3 14

(KFCC)

K

H, (Lactobacillus sp.) ME1(KFCC 11155) 가 190nm 가 453Da, p

, (Lactobacillus sp.) ME1(KFCC 11155) KHANIN - ME1 ,

1 :

(Lactobacillus sp.) ME1(KFCC 11155)  
 , ME1 가 MRS 37 30 40 : , 10,  
 000 x g 10 20 , , ,  
 가 , 20 40 .

2 :

1 (ion exchange chromatography),  
 (gel filtration), (TLC) : ,  
 (CM Sepharose CL - 6B) , (Sephade  
 xG - 15)

3 : (HPLC)

2 KHANIN - ME1 : ,  
 (reverse phase column)

가

가

1:

(vaginal track) , , , ,  
 , 2,683 7,399 , (E. coli) 0157  
 :H7 40 . 1 40 ,  
 (Gram +), (catalase - ), 7 2 ,  
 0157:H7 가 1x10<sup>9</sup> C  
 FU/ml (E. coli) 0157:H7(ATCC 35150) 1%(v/v) (nutrient agar plate) 8m  
 m (paper disk, Adventec Toyo Roshi Kaisha, Ltd., Japan) , 80μℓ  
 37 18 (mm)  
 1mm<sup>2</sup> 1AU(arbitrary unit)

ieux Co., France) 50 (API 50 CHL kit, bioMer  
 (API 50 CHL database V4.0) ,  
 ( : 1).

- 5 -

000 x g 15

, 1

(50mM acetate buffer, pH 5.0) 가

2 - 2:

U.S.A.)가 (1.5 x 50cm) (CM Sepharose CL - 6B, Biorad., U.S.A.)가 1.8L 0.4M 0.15  
 4M - 0.2M 180M (gel filtration)

3M , 0.45 $\mu$ m (syringe filter, Gelman Sciences, U.S.A.)  
 (Sephadex G - 15, Biorad., U.S.A.)가 0.4M

LC plate) , (Silicagel 60 T) 가 4:1:2(v/v/v) (spot) , 0.5M , 254nm , Rf 0.37

2 - 3: (HPLC)

50mm, Jasco, Japan) , (reverse phase C18 column, 4.6 x 1 (HPLC) , 0.3M , 8 (peak) 2  
 , 'KHANIN - ME1'

3: KHANIN - ME1 ,

3 - 1: pH

25, 50, 70 100 1 121 15 ,  
 ( : 2).

[ 2]

( )	(AU)
25	163.3
50	157.7
70	177.6
100	163.5
121	157.7

, pH 0.1N pH 2, 4, 6, 7, 8, 10, 12 ,  
400AU/ml 가 25 24 , ( :  
3).

[ 3] pH

pH	(AU)
2	28.3
4	34.7
6	28.3
7	31.4
8	25.2
10	31.4
12	31.4

2 3 , pH ,  
15 90% (Nisin) , pH 6.8 121  
KHANIN - ME1가

3 - 2:

- 가 (UV - Visible recording spectrophotometer, Shimadzu, Japan)  
190nm 300nm , 190nm .

3 - 3:

2 (acetonitrile) 1:1(v/v)  
, (Platform II LC - MS, Micromass, Manchester, U.K.) , 453  
(peak) , 453Da .

4: KHANIN - ME1

4 - 1: KHANIN - ME1

(Lactobacillus sp.) ME1(KFCC 11155) 10,000 x g 15  
(50mM acetate buffer, pH 5.0) 3 , - (Bead - B  
eater, Biospec, U.S.A.)  
, 0.45 $\mu$ m (syringe filter, Gelman S  
ciences, U.S.A.) , .

0, KHANIN - ME1, 100 3  
(Lactobacillus sp.) ME1(KFCC 11155), 2 A  
ME1, C, 2, B

## 4 - 2: KHANIN - ME1

KHANIN - ME1

$$(\quad : 4, 5).$$

[ 4] KHANIN - ME1

(Gram positive strain)	
(Bacillus subtilis, KCCM 35424)	-
(Lactobacillus acidophilus, KCCM 32820)	+
(Lactobacillus brevis, KCCM 40061)	+
(Lactobacillus casei, KCCM 35465)	+
(Lactobacillus plantarum, KCCM 11322)	-
(Lactococcus lactis subsp. lactis, KCCM 32406)	-
(Leuconostoc mesenteroides, KCCM 11324)	-
(Listeria monocytogenes, KCCM 40307)	+
(Staphylococcus aureus, ATCC 25923)	+
(Streptococcus agalactiae, KCCM 11957)	+
(Streptococcus pyogenes, ATCC19615)	+

[ 5] KHANIN - ME1

(Gram negative strain)	
O157:H7(Escherichia coli O157:H7, ATCC 35150)	+
(Pseudomonas aeruginosa, ATCC 27853)	+
(Salmonella typhimurium, ATCC 19585)	+
(Yersinia enterocolitica, ATCC 27729)	+

4                  5                  ,                  O157:H7,

,                  ;

,                  ;                  ,

,                  ,                  ,                  KHANIN - ME1

가                  ,

4 - 4:



KHANIN - ME1  
 Co., U.S.A.) (50mM phosphate buffer, pH 7.0) , K(proteinase K, Sigma Chem.  
 1:1(v/v) 37 2 M 35.1unit가 ,  
 : 3). 3 A K , B K .  
 3 , K ,  
 KHANIN - ME1 .  
 ,  
 , 가 ,  
 , 가 가 ,  
 , 가 ,  
 , 가  
 ,  
 . pH , ,

(57)

1.

(Lactobacillus sp.) ME1(KFCC 11155).

2.

KHANIN - ME1 :

( ) (Lactobacillus sp.) ME1(KFCC 11155)  
 , ;

( ) ,  
 ; ,

( ) (HPLC) KHANIN - ME1 .

3.

2 , 가 KHANIN - ME1:

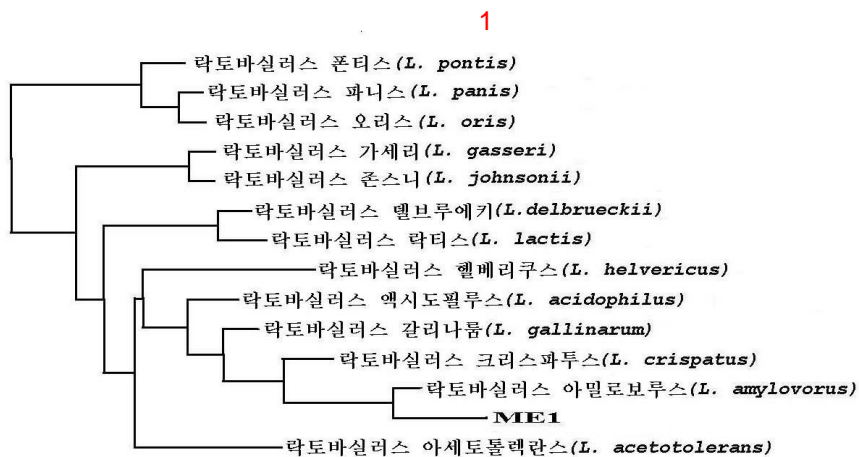
( ) (Lactobacillus sp.) ME1(KFCC 11155) ;

( ) 121 , 15 pH 2 12 ;

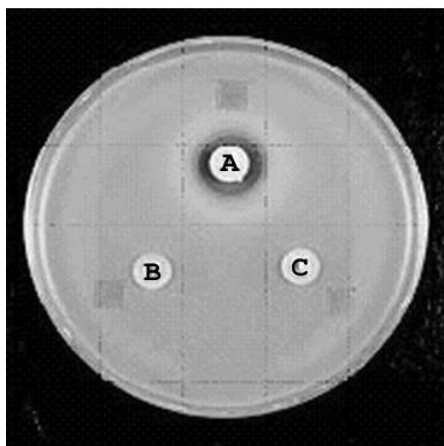
( ) 190nm 가 ;

( ) 453Da ; ,

( ) (E. coli) O157:H7, (Listeria monocytogenes),  
 (Salmonella typhimurium), (Staphylococcus aureus),  
 (Yersinia enterocolitica), (Streptococcus aga  
 lactiae), (Streptococcus pyrogenes) (Ps  
 eudomonas aeruginosa)



2



3

