

** ** *

*

**

MBC MIC ()
PTCC1015 (IU/ml)
% / % / : % / % / % / % /
PTCC1015 IU⁴/ml
(% /) (% /) (% /) (%) (% /)
log cfu/ml (IU/g)
log cfu/ml

:

-
1. Efficacy
 2. Nisin
 3. Preservative
 4. International Unit

()

()

()

()

()

()

()

()

()

()

()

3. Rogerz

4. *Lactobacillus bulgaricus*

5. FDA: Food and Drug Administration

6. WHO: World Health Organization

1. Chelators

2. Bacteriocins

...

(²TSB)

(PMF)

ATP

³PTCC1015

.()

:

.()

:

:

pH

.()

.()

.()

:

°C

TSB

:

pH= / (% %)

) °C

(

/ × CFU/ml

.()

:

(% /)

IU/ml

/

°C

/

(IU= μg)

°C

MIC

%

.()

.()

/

%

°C

MBC MIC

:

()

MBC

:

-
1. Minimum Inhibitory Concentration
 2. Minimum Bacteriocidal Concentration

...

)

(

()

/ F Minitab

% / % /)

(

13

Paired-Samples T Test

SPSS

TSB

/

/ × CFU/g

IU/ml

()

°C

MIC

°C

PTCC1015

()

MBC

/ /

pH

°C

% /

PTCC1015

MIC

/ × CFU/g

:



TSB

MIC

PTCC1015

PTCC1015			
% /	% /		
% /	% /		
%	%		
% /	% /		
%	%		
% /	% /		
% /	% /		
% /	% /		
IU/ml	IU/ml		

.()

% /

% /

.()

% /

%

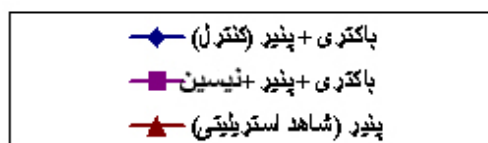
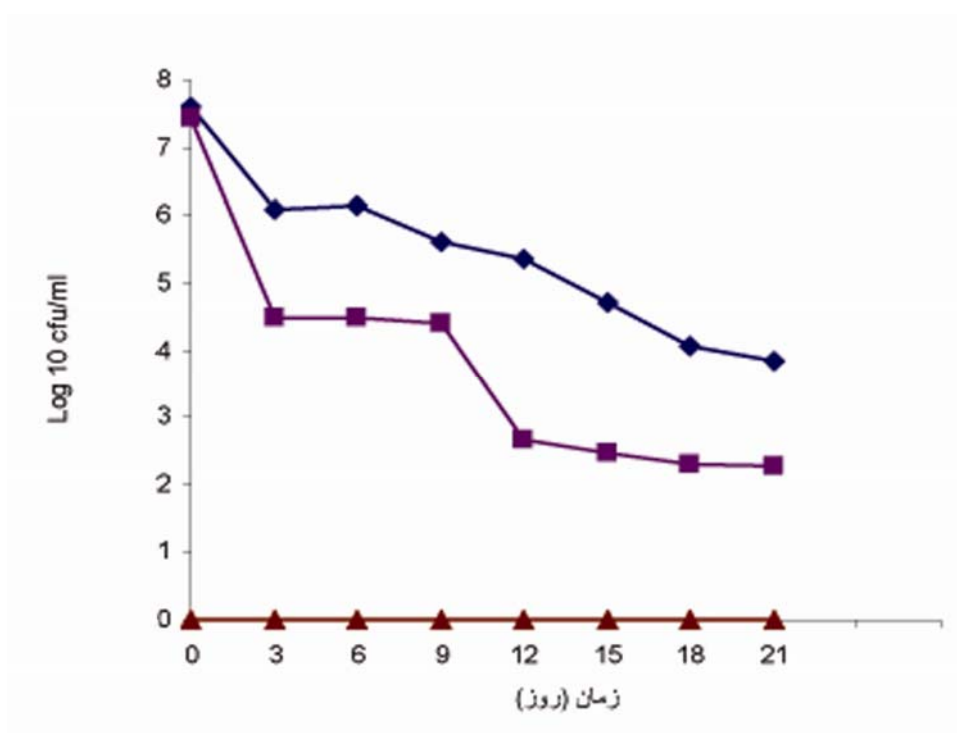
Lateef

TSB

MBC

PTCC1015

g/ml		MBC	
PTCC1015			
% /		% /	
% /		% /	
%		%	
% /		% /	
%		%	
% /		% /	
%		%	
% /		% /	
IU/ml		IU/ml	



.()

%

.()

.()

(% /)

(% /)

(% /)

(%)

.()

Warth

(% /)

Davidson

PTCC1015

.()

/

MIC .

A

.()

MIC

Siebert Hsiao

-
- 2. Transformation
 - 3. Transduction
 - 4. Conjugation
 - 5. Trans-glycosylation
 - 6. Trans-peptidation

1. Efflux

...

Hsiao

.()

Siebert

()

Sarkar Banerjee

.()

Abee .()

.()

.()

/

IU/g

Ganzle

log

°C

cfu/ml

log cfu/ml

.()

cereus at 7, 13, 21, and 35°C in tryptose broth acidified with acetic, citric, or lactic acid. *Journal of Food Protection* 52, 688-695. (1989).

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MBC MIC

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