

2008/09/21  
2009/11/03

48-24

.%10

37

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3-1

.3

M- A-  
.M A

.L7/L12

(PCR)

:  
PCR

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# Isolation of *Brucella* from Bovine Raw Milk in Some Areas in Damascus Countryside

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## ABSTRACT

Brucellosis is an endemic zoonosis in Syria, affecting large numbers of animals and increasing number of cases in humans. *Brucella* is an intracellular pathogen capable of infecting animals and humans. This bacteria is small, non-motile, non-spore, Gram-negative coccobacilli and aerobic. There are six recognized species of *Brucella* that differ in their host preference: *B. melitensis*, *B. abortus*, *B. canis*, *B. ovis*, *B. suis* and *B. neotomae*. *B. melitensis* causes a highly contagious disease in sheep and goats although cattle can be infected. It is the most important species in human infection. Clinically, the disease in animals is characterised by one or more of the following signs: abortion, reduced milk yield, retained placenta, epididymitis and rarely arthritis. Milk should be considered a source of human infection. The isolate bacteria on the selective media of *Brucella* were done after 24 - 48 hours of incubation at 37°C in air + 10 % v/v CO<sub>2</sub>. The *Brucella* colonies isolates were 1-3 mm in diameter, with a smooth glistening surface. The colonies are a transparent honey color in transmitted light. It is a catalase positive, oxidase positive, hydrolyse urea and produces a trace of H<sub>2</sub>S. Do not require supplementary CO<sub>2</sub> for growth; grow in the presence of basic fuchsin, thionin. They have the both A and M surface antigens according to slide agglutination with A and M monospecific polyclonal anti-sera. Our results demonstrated that this isolate bacteria was *B. melitensis* biovar 3. We confirmed these results by using polymerase chains reaction (PCR) for a conserved gene in the *Brucella* genus encoding a cytoplasmic protein L7/L12.

**Key words:** Biochemical test, *Brucella*, Polymerase chains reaction (PCR), Milk.

0.7 0.5 )  
 Georgios *et al.* ) Rough Smooth ( )  
 :  
*B. suis* *B. melitensis* *B. abortus*  
*B. pinnipediae* and *B. cetaceae* *B. canis*  
 .(Moreno *et al.*, 2002; Lucero *et al.*, 2006)  
 CO<sub>2</sub> :  
 ( ) H<sub>2</sub>S  
 .(Godfroid, 1992)  
 .(Boschioli *et al.*, 2001)  
 .(WHO, 1997)  
 .(Garin-Bastuji, 1993)  
 fever  
 malaise fatigue anorexia sweat  
 (Almuneef and depression weight loss  
 .Memish, 2003)  
 .(Robichaud *et al.*, 2004)  
 .(Corbel, 1997)  
 :  
 .(OIE, 2000)

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(OMPs)

.(DelVecchio *et al.*, 2002) IS6501 IS711

:(Alton *et al.*, 1988)

: -1

( 187)

.(1)  
.2006 2005

( )

(1)


: -2

5 10 10 :

: 5000 B 100000 25000 5 37 100 20

°56

%5

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)

:

-3

:CO<sub>2</sub>

1-3

.CO<sub>2</sub>

CO<sub>2</sub>

72-48

. 37

CO<sub>2</sub>

:H<sub>2</sub>S

2-3

CO<sub>2</sub>

24

. 37

:

3-3

CO<sub>2</sub>

:

48

. / 20

. 37

:

4-3

:

5-3

:Urease

6-3

1

( )

0.5

( )

24 120 60 . 37

: 7-3

M- A- R-

:PCR -4

(L7/L12 )  
x : (primers)

) DNA  
1 ( / 100 10 )  
5 dNTP 1  
50 DNA  
.PCR 35

: -1

3-1

1  
( )  
H<sub>2</sub>S  
. 37 120 - 45

(1)

Acriflavine	anti R	anti M	anti A			H <sub>2</sub> S				CO <sub>2</sub>	
-	-	+++	++	+	+	+		++	++	-	
-	-	++	+++	+	+	++		++	++	-	
-	-	+++	++	+	+	+		++	++	-	1
-	-	+++	++	+	+	+		++	++	-	2
-	-	+++	++	+	+	+		++	++	-	3

3

.R

M- A-

:PCR

-2

PCR

(1)

3-2

(

(L7/L12

)

) 235

(6-4

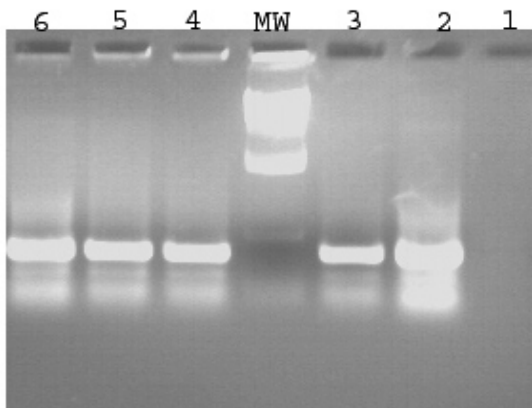
)

DNA

PCR

1

.( )



.PCR

(1)

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:1

:6-4

( )

:3

.ΦX174DNA/HaeIII

:MW

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( )

(Refai, 2002)

%78

(Godfroid, 1992)

(FAO, 1998)

(LPS)

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-1

-2

(Fiori *et al.*, 2002)

L7/L12

PCR

(Vizcaino *et al.*, 2000)

(Cortez *et al.*, 2001)



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(Tantillo *et al.*, 2001)

(Guasuno *et al.*, 2000)  
(Sreevntsan *et al.*, 2000)

Georgios *et al.*, )

4

8

(Alton *et al.*, 1988)

(2005)

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