

Streptococcus bovis

1

		Streptococcus bovis			
		2011	2009		
M17		320	123		
	.API 20 Strep	PCR	Strep. bovis		37
(%30.63)	Strep. bovis	M17			98
%45.91	III				
Strep. bovis		.%21.44	I	%32.65	II2
Strep.					
		PCR	API 20 Strep		bovis
.PCR, API 20Strep					<i>Streptococcus bovis</i> :

(Flint *et Strep. waius* (Tsakalidou *et al.* 1998)

(Bouvet *et Strep. infantarius al.*, 1999)

al.,1997)

Poyart *et al.*,) PCR *Strep.bovis*

(Schlegel *et al.*, 2003) (2002

II2 III I

.(Hamza *et al.*, 2009) (Papadelli *et al.*, 2003)

60

(Chadfield *et al.*, 2007)

1997 *Strep. bovis*

Droual

3

Streptococcus bovis

Poyart *et al.*,)

Strep.bovis

(2002

Ruoff *et*) (Knight and Schlaes, 1985)

(*al.*, 1989

Strep.gallolyticus

Strep. macedonicus (Osawa *et al.*, 1995)

ahedab@maktoob.com.

.2010/4/5

2009/8/6

(Abdelgadir *et al.*, 2008)

(Jans, 2011) (Wullschleger,2009)

Materials and methods :

Strep. bovis 123

2011 2009

Poyart *et al.*,) (2002
(Revol and Herbin, 1999) 10
%6.5
(Xiao *et al.*, 2004) 9.6 pH
(Hamza *et al.*, 2009)

Strep.bovis

24

De) (Devriese *et al.*,1990)
(Herdt *et al.*, 1992

(2011)
Strep. bovis
M17 Agar (Xiao *et al.*, 2004)
5 - MERCK
10
90
1⁻10

2 2009 Rashid
.Bacteriocin
Strep. bovis

48 37

Harrigan and) *Strep. bovis*
(McCance, 1976
9.6 pH 45 10
NaCl % 6.5

(DNA polymerase) (Xiao *et al.*, 2004)
 (Thomas and Pritchard, 1997) (Esculin)

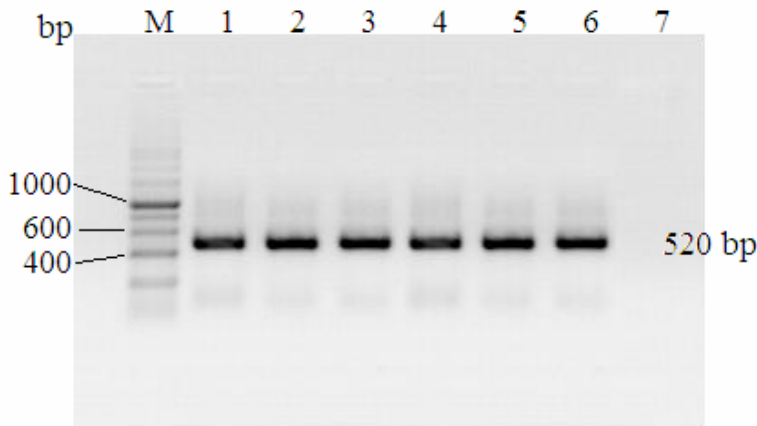
PCR
 PCR - GENE Amp. PCR (Arginin)
 30 - system 9700 Arginine dihydrolase Agar
) (Pilone *et al.*, 1991) - MERCK

45 94 (Denaturation) PCR
 45 60 (Annealing) (Polymerase chain Reaction)
 45 72 (Extension) 16s - 23s (fragment)
 10 92 *Strep. bovis* RNA
 72 bp520 Fragment (F, R)primer
 Final) 10
 . 4 (extension 16s - 23s RNA
 Agarose)
 (TE) Tris – EDTA %1.5 (gel 5'- : F *Strep. bovis*
 - Eurobio AATGGGGACATTACGATCCA -3
 (DNA Marker) - Eurobio 5'- AAGCCACTGGTTTCCATGTC -3 : R
 -BIO RAD (electrophorese) Base Pairs)
 150 85 () 520bp ((bp)
 .(NTI Vector)
 - MERCK M17
 UVITEC 37 24 *Strep. bovis*
 / 14000
 .
 . API 20 *Strep* µl 100 3
 (- BioMérieux) *Strep. bovis* 10 80-
 10 100
 3 / 14000
 .(Chadfield *et al.*, 2007) .(Hamza *et al.*, 2009) PCR
Strep. bovis 25 PCR
 MSTATC DNA µl 2 µl
 %5 (Reaction Buffer 10X) 2.5 µl
 () µl 0.5 (nM 50) MgCl₂ µl 3
Strep.) (dNTP)
bovis Eurobio (µl / p.mol 1
 : µl 1 µl 1 -

M17 320 **Results :** 2010 2010 2010
 37 2010 2010
 (1) 2010 2010
 M17 37 2011 2011
Strep. bovis

37	M17	(1)
320		
270	10	
190	45	
112	% 6.5	NaCl
180	9.6	pH
205		
176		

2) *Strep. bovis* AT 14 :PCR
 M17 (- bp 520 (1)
 6 PCR
 (%1)
 (7) .(100bp Ladder)
 98 *Stre. thermophilus*
Strep. bovis :1 (-)



(1)
R F PCR
:1 23sRNA 16sRNA
:7 *Strep. bovis*
: M *Stre. thermophilus*
Stre. bovis : 6-2

API 20 Strep) PCR 98
API 20 (2) bp520
Strep.bovis *Strep* (Gene Bank
% 30.64
37 M17
) 45 III
II2 (%45.91
I (%32.65) 32 *Strep.*
(2)
(%21.44) 21 *bovis*

(2)

GLYG	AMD	RAF	INU	TRE	LAC	SOR	MAN	ARA	RIB	ADH	LAP	PAL	GUR	GAL	PYRA	ESC	HIP	VP		
+	+	+	-	+	+	-	+	-	-	-	+	-	-	-	-	+	-	+	<i>Strep. bovis I</i>	21
-	-	+	-	-	+	-	-	-	-	-	+	-	-	+	-	+	-	+	<i>Strep. bovisIII</i>	45
-	-	-	-	+	+	-	-	-	-	-	+	-	+	+	-	+	-	+	<i>Strep.bovisII2</i>	32

.Glycogene :GLYG Hippurat :HIP Acetoine :VP
API 20 Strep :GAL pyrrolidone :PYRA Escoline:ESC
Strep.bovis PCR :PAL Glucuronidase :GUR Galactosidase
%100 Leucine :LAP Alkaline phosphatase
Strep.bovis (3) :RIB Arginine dihydrolase :ADH arylamidase
Mannitol:MAN Arabinose :ARA Ribose
2009 Trehalose :TRE Lactose :LAC Sorbitol :SOR
Amidon :AMD Raffinose :RAF Inuline :INU
2011

<i>Strep. bovis</i> (3)							
8	7	6	5	4	3	2	1
*			*	*			*
*			*	*			*
*			*	*			*
*			*	*			*

Strep.bovis

* :

Strep. bovis (3)

Strep.bovis

.API 20 Strep

PCR

Strep.bovis

Strep. bovis

37

320

M17

(2)

- M17

Revol and)

-

Poyart *et al.*,) (Xiao *et al.*, 2004) (Herbin,1999

.1.12

LSD

(Hamza *et al.*, 2009) (2002

98 PCR

Strep. bovis

Discussion:

Strep. bovis

%30.63

Strep.

. 37

M17

bovis

(Whitney, 2006)

Leushner and)

(Tsakalidou *et al.*, 1998)

Aly)

(Boughtfower, 2002

(Pacini *et al.*, 2006) (Dy'az-Ruiz *et al.*, 2003)

(Carey *et al.*, 2005) (and Galal, 2002

.(Renyé *et al.*, 2011) (Rashid *et al.*,2009)

Santos *et al.*,) (Klei *et al.*, 1998)

.(2003

4+

Strep.bovis

(De Herdt *et al.*, 1992) (Devriese *et al.*,1990)

PCR

Strep. bovis

()

(OIE, 2002)

Conclusions :

(Hamza et al., 2009)

Strep. bovis - 1

API 20 Strep

-

Strep. bovis

Strep. bovis -2

Abdelgadir)

- 3

(et al., 2001

III

Strep. bovis - 4

%32.65

II2

%45.91

PCR API 20 Strep

.%21.44

I

Strep. bovis - 5

Strep.bovis

- (2011) - .232 - 227 -

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Isolation and Characterization of *Streptococcus bovis* from Raw Cow Syrian Milk

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ABSTRACT

This research aims to identify *Streptococcus bovis* bacteria isolated from Raw Syrian milk. The samples were collected from farms located in the cities and the suburbs of Damascus, Dara'a and Alqunitera. Moreover, specimen were isolated from 123 milk samples, of which 320 specimen were coccus, gram positive by growing on M17 media at 37°C. Nevertheless, these samples were assembled during the period of June 2009 till May 2011. Both PCR and API 20 Strep Techniques were used for identifying these bacteria. The study also showed that 98 samples grown on M17 media, belongs to *Strep. bovis* bacteria at (30,63%). Moreover, the study found out that three subordinates under this type of bacteria where the most spreading ones, and they were II1 with 45,91%, then II2 with 32,65% and finally the percentage of the third I was 21,44%. According to this study, it appeared that the *Strep. Bovis* bacteria exists seasonally and it is mainly in both summer and spring. Which is due to the kind of nutrition used in feeding the cows. The green used feed may have high load of bacterial that can be transferred hence to the animals. Finally, confirming results were diagnosed using both API 20 Strep and PCR technique equally.

Keywords: *Streptococcus bovis* , Classification, Isolation, Raw Cow Syrian Milk, PCR, API 20Strep.

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