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( // : // : )

S<sub>54</sub>, S<sub>55</sub>, S<sub>40</sub>

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(Owens, 2008)

(FAO, 2008)

(Owens, 2008)

(Galet, 1964)

(Ledbetter &

(Ramming, 1989; Fatahi et al., 2003a)

(Striem, et al.,

(*Vitis vinifera* L.) .1992)

(Fatahi et al., 2004)

(Spiegel-Roy et al., 1990)

(Owens, 2008)

(SSRs)

(Scott et al., 2000)

(Reynolds et al., 1997)

(Cancellier

et al., 1990; Mattheou et al., 1995)

SSR

(Ali panah et al.,

.2006)

(1964) Galet

(Fatahi et al., 2003a;

Ramezani, 2006; Ali panah et al., 2006; Dolati baneh, 2007)

(Erfani Moghadam et al., 2008)

(Fatahi et al., 2004)

(Erfani moghadam et al., 2008)

(Ebadi, 2005)

ErfaniMmoghadam et al. .

(2008)

(2008) Erfani Moghadam et al. .

(Erfani Moghadam et al.,

2008)

(1994) Thomas et al.

(International Board Plant for Genetic

Resources, 1983)

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A<sub>119</sub> I<sub>73</sub> R<sub>80</sub> K<sub>67</sub> I<sub>21</sub> )

)

(S<sub>54</sub> L<sub>125</sub> S<sub>55</sub> K<sub>93</sub> S<sub>40</sub> B<sub>98</sub> R<sub>84</sub>

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Touch Down : ( ) .  
 °C ) ( )  
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 ( / / ) ( / )  
 .( / )

×  
 ( M ) /  
 TBE ( X)  
 PCR  
 % ) mM EDTA pH:8  
 % / Xylene cyanol (% / Bromo phenol blue  
 PCR

VVMD14 VVMD7 VVMD5 VVS4 VVS2  
 VVMD36 VVMD27 VVMD25 VVMD24  
 VrZAG21 VMC4G6 VMC4H6 VMC4A1  
 VrZAG64

Perkin Elmer  
 DNA :  
 dNTPs / (DNA )  
 100µM  
 /  
 / Taq DNA Polymerase /  
 / 1X PCR Buffer  
 /  
 (Bassam et al., 1991)

(PI)

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3. Probability of Identity

- 
1. Forward
  2. Reverse

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CERVUS, 3.0

CERVUS 3.0

( )  
( )

I<sub>21</sub>  
K<sub>67</sub>  
R<sub>80</sub>  
I<sub>73</sub>  
A<sub>119</sub>  
R<sub>84</sub>  
B<sub>98</sub>  
S<sub>40</sub>  
K<sub>93</sub>  
S<sub>55</sub>  
L<sub>125</sub>  
S<sub>54</sub>

LOD ( )

NTSYSpc2.02e

UPGMA

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) (...

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( )  
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(Jakes et al.,

.2001; Li et al., 2000)

Mattheou et .

(1995) al.

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1. Unweighted Paired Group Method Using Arithmetic Average



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VVS2 / VVS2 / PI

VVS2 VVMD7, VVMD24, VVMD27 / VVMD27 /

. % VMC4A1 VrZAG64

(Ali panah et al., 2006)

PI .( )

PIC .(Ali panah et al., 2006)

(Ali panah et al., 2006)

VrZAG64 PIC

/ / / VVS2

VVS4 / /

.( ) / /

UPGMA PIC

.( )

/

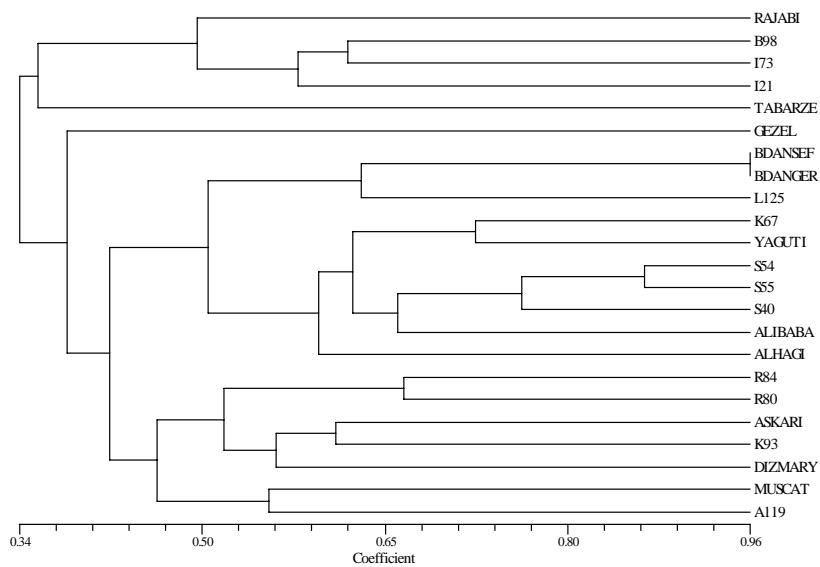
/ VVMD7

VVMD27, %

/ VrZAG64 VMC4H6

1. Dice Similarity Coefficient

VVS4



UPGMA

S<sub>54</sub>

(2003a) Fatahi et al.

S<sub>55</sub>

K<sub>67</sub> S<sub>40</sub>

(1999) Lopes et al. (1998) Seferic et al.

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R<sub>84</sub> R<sub>80</sub>

S

L<sub>125</sub>

L<sub>125</sub>

K<sub>93</sub>

K<sub>93</sub>

CERVUS3.0

L<sub>125</sub>

R<sub>80</sub>

R<sub>84</sub>

/

×

)

(

S<sub>55</sub> S<sub>54</sub>

S<sub>40</sub>

A<sub>119</sub>

/

A<sub>119</sub>

/

/

K<sub>67</sub>

I<sub>21</sub>

/

I<sub>73</sub> B<sub>98</sub>

K<sub>67</sub>

( / )

/

/

/

S<sub>54</sub>

/

×

- 
- 1. Full sib
  - 2. Half sib



(Jones & Ardren,

(1986) Meagher .2003)

LOD

LOD

LOD

CERVUS 3.0

CERVUS 3.0

(2003b) Fatahi et al. .

( : : )

1. Likelihood Based assignment
2. Logarithm of odds

LOD	
/	× ( )
/	×
/	×
/	×
/	( ) ×
- /	×
/	( ) ×
/	×
/	( ) × ( )
/	×
/	( ) × ( )
/	×

( )

( )

( )

L<sub>125</sub>

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