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/ / :  
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### HSP72

- - - -  
- - - -

(NTG)

(HTG)

HSP72

(HG)

)

(

HSP<sub>72</sub>

LSD

T

P ≤ /

HTG

HSP72

NTG

(P = / )

(P = / )

HTG

HSP72

HSP72



(HSP)

, ( )  
, (

, ( )  
( ( )  
( ( )

**70-KDa**

HSP72 ( ) HSP<sub>40,60,70,90,110</sub>

( )  
( )  
HSP72 ( )  
( )  
( )  
HSP72

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1 - Heat Shock Proteins (HSP)  
2- Kilo Dalton

HSP72

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HSP72 ,

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( , , , )

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HSP72

( )

HSP72

( , , )

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HSP72



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/ ± /	/ ± /	/ ± /	/ ± /	± /	/ ± /		NTG
/ ± /	/ ± /	/ ± /	/ ± /	/ ± /	/ ± /		HTG
/ ± /	/ ± /	/ ± /	/ ± /	/ ± /	/ ± /		HG

)HTG ( )NTG \*  
( )HG (

HSP72

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(NTG) ( ± )  
(HTG) ( ± )  
(HG)

HSP72

) ( , )  
) ( )  
(

HSP72

( ± )  
( ) ±  
±



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( )

**(CITIZEN-JAPAN)**

**HTG NTG**

( )

**HG**

**(HSP)**

HSP72

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( , , ) (STRESSGEN) HSP72  
(CK)  
- ( , )

( , )  
LSD

T HTG NTG  
P ≤ /

HSP72  
NTG HSP72 HTG  
NTG HSP72  
( / / p )  
HTG  
(P = / )  
(P = / )  
(P = / ) HSP72 (HG)  
HTG NTG HSP72

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( / / P )  
**HTG NTG** **HSP72**  
 ,(P = / )  
**HSP72** .( ) (P = / )

( ) *HSP72* -

( ± )	( ± )	( ± )	
±	±	±	<b>NTG</b>
±	±	±	<b>HTG</b>
±	_____	±	<b>HG</b>

*HTG NTG* *HSP72 LSD* -

<b>P</b>				
/	/	/		<b>NTG</b>
/	/	/		
/	/	/		
/ *	/	/		<b>HTG</b>
/	/	/		
/	/	/		

\*

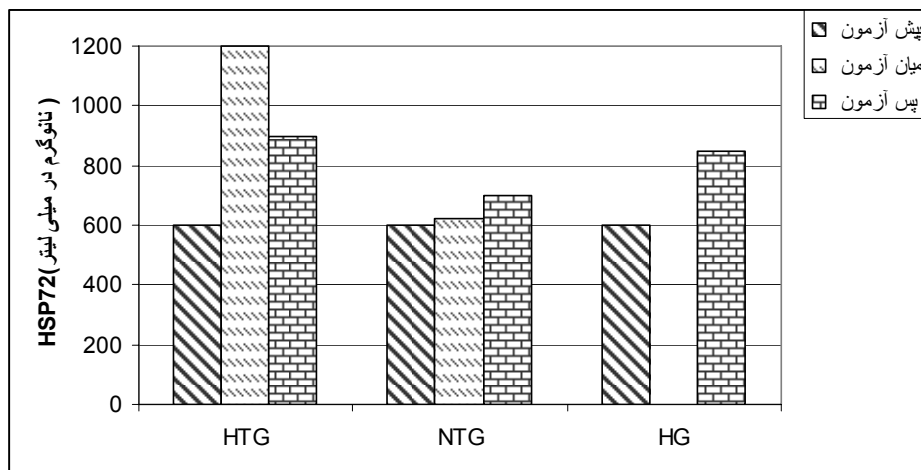


HSP72

HSP72

<i>P</i>			<i>P</i>	<i>T</i>			
/	/	/	/*	/	/	NTG	HTG
/	/	/	—	—	—	HG	
/	/	/	—	—	—	HG	HTG

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HSP72

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**HSP72**

**HSP72**

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**(HSP)**

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**HSP72** .( )

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**HSP72**

**HSP72**

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**HSP72**

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**HSP72**

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1- Rernodeling  
2- Compartmen

HSP72

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	<b>HSP72</b>	<b>mRNA</b>	
		( , )	
	<b>HSP72</b>		
		( )	
<b>(CK)</b>			
	(	)	
	<b>CK</b>		<b>HSP72</b>
	<b>HSP72</b>		<b>CK</b>
	<b>HSP72</b>		<b>HTG</b>
	<b>HSP72</b>		( )
	<b>HSP72</b>		
	( )	( , )	( , )
		( , )	( )
			<b>HSP72</b>
( , , , , )			<b>HSP72</b>
)			<b>HSP72</b>
	<b>HSP72</b>	(	
		( )	
( , , , , )			( , )
			( , )



HSP72

, ( )

- .( , , )

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HTG

/ ) HG (HTG NTG)

( /

HTG HSP72  
NTG

, ( )

HSP72

. ( , )

(HSE)

(HSF)

HSP

HSF HSP72 ,

HSF ,

HSF

HSP72

HSP72 ,

HSP72

. ( , )

HSP72

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HSP72

( , )

( , ) ( )

HSP72

( )

( , )

( )

HSP72

HSP72

( )

HSP72 VO<sub>2max</sub>

HSP72

HSP72

HSP72

HTG

HSP72

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