

:

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// : // :

IBL

SOD

SOD,GPX

MDA

ELISA

%

GPX MDA

SOD t :

.(p< /)

.(p< /)

(SOD, EC 1.15.1.1)

Hammond and Hess)

SOD .(1985

.(Oakeshott et al. 2005)

SOD .(Kodama et al. 1989)

Cu/Zn SOD)) SOD -

SOD (Mn-SOD) SOD
Horiuchi et al.) (EC-SOD)
(2004)

CBC LaMotta and) SOD
(Woronick 1971
(GPX)

rSOD , rGPX
()
(IBL) ELISA sSOD
MDA

GPX SOD
)
(

%
%
%
%
()
ANOVA t
%

(/ ± /) (rSOD)
(rGPX)
(%) (sGPX) (sSOD)
() (MDA)

(%)

)

(

(Ranjbar et al. 2002a)

IU/L 2067 ± 7970 IU/L 2496 ± 9569

Panemangalore

IU/grHb10.8 ± 48.1

IU/grHb 16.9 ± 37.4

SOD

(p< /)

%

SOD t

(p< /)

Panemangalore et al.)

%

(1999

MDA

(p< /)

Dowla

GPX

(p< /)

(p< /)

GPX (p< /)

CHE SOD (acephate)

maleic)

SOD (hydrazide

(Dowla et al. 1996)

Prakasma

(Prakasama et al. 2001)

(dipterex)

MDA

SOD, GPX, AChE

(Zhou et al. 2004)

(paraquat)

-

(Ranjbar et al. 2002b)

()

SOD

-

(Shadnia et al. 2005)

DNA

()

SOD

Olgum and Misra)

(2006)

()	()	
(/)	(/)	
(/)	(/)	%
(/)	(/)	%
(/)	(/)	%
(/)	(/)	%
()	()	

rGPX (U/gr Hb)	rSOD (U/gr Hb)	sGPX (U/L)	TANT (mmol/l)	MDA (nmol/ml)	sSOD (U/ml)	
/ ± /	±	±	/ ± /	/ ± /	/ ± /	*
/ ± /	±	±	/ ± /	/ ± /	/ ± /	**
/ ± /	±	±	/ ± /	/ ± /	/ ± /	
/ ± /	±	±	/ ± /	/ ± /	/ ± /	*
/ ± /	±	±	/ ± /	/ ± /	/ ± /	**
/ ± /	±	±	/ ± /	/ ± /	/ ± /	

**

*

:TANT

:MDA

:sSOD

:rGPX

:rSOD

:sGPX

sGPX1	sGPX2	rSOD1	rSOD2	rGPX1	rGPX2	sSOD1	sSOD2	MDA1	MDA2	TANT1	TANT2	sCHE
±	±	±	±	±	±	±	±	/ ± /	/ ± /	/ ± /	/ ± /	
±	±	±	±	±	±	±	±	/ ± /	/ ± /	/ ± /	/ ± /	
±	±	±	±	±	±	±	±	/ ± /	/ ± /	/ ± /	/ ± /	
±	±	±	±	±	± ,	±	±	/ ± /	/ ± /	/ ± /	/ ± /	
±	±	±	±	±	±	±	±	/ ± /	/ ± /	/ ± /	/ ± /	

sGPX1	sGPX2	rSOD1	rSOD2	rGPX1	rGPX2	sSOD1	sSOD2	MDA1	MDA2	TANT1	TANT2	rCHE
±	±	±	±	±	±	±	±	/ ± /	/ ± /	/ ± /	/ ± /	
±	±	±	±	±	±	±	±	/ ± /	/ ± /	/ ± /	/ ± /	
±	±	±	±	±	±	±	±	/ ± /	/ ± /	/ ± /	/ ± /	
±	±	±	±	±	±	±	±	/ ± /	/ ± /	/ ± /	/ ± /	
±	±	±	±	±	±	±	±	/ ± /	/ ± /	/ ± /	/ ± /	

:sCHE

:TANT

:MDA

:sSOD

:rCHE

:rGPX

:rSOD

:sGPX

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