

PEROXIDASE

Donor:hydrogen-peroxidase oxidoreductase

REACTION:



PRODUCT DESCRIPTION

Catalog No.:	qs50038-1 (RZ \geq 3.0) qs50038-2 (RZ \geq 2.0)
Appearance:	Reddish-brown amorphous powder
Source:	Horseradish
Enzyme Commission Number:	EC 1.11.1.7
CAS Number:	9003-99-0
Storage temperature:	-20 $^{\circ}$ C
Activity:	\geq 250 Purpurogallin U/mg solid(qs50038-1) \geq 180 Purpurogallin U/mg solid(qs50038-2)
Unit definition:	One unit will form 1.0 milligram of purpurogallin from pyrogallol in 20 second at pH 6.0 at 20 $^{\circ}$ C.

PROPERTIES

Stability:	Stable at -20 $^{\circ}$ C for at least one year	
Molecular weight:	-40 kDa (SDS-PAGE)	
Isoelectric point:	7.2	
Optimum pH:	6.5	{Fig. 1}
Optimum temperature:	45 $^{\circ}$ C	{Fig. 3}
pH Stability:	5.0-10.0(30 $^{\circ}$ C,16hr)	{Fig. 2}
Thermal stability:	< 50 $^{\circ}$ C (pH 6.0,15min)	{Fig. 4}
Inhibitors:	NaN ₃	
Effect of various chemicals:		{Table 1}

Table 1.

Effect of Various Chemicals on POD

[The enzyme dissolved in 100mM Tris-HCl buffer, pH 7.5 (50U/ml) was incubated with each chemical at 37°C for 2hr.]

Chemical	Concn. (mM)	Residual activity
None	-	100%
CaCl ₂	2.0	106%
CoCl ₂	2.0	117%
CuSO ₄	2.0	109%
FeCl ₃	2.0	105%
MgSO ₄	2.0	112%
MnSO ₄	2.0	111%
NiCl ₂	2.0	109%
ZnSO ₄	2.0	103%
BME	2.0	107%

Chemical	Concn. (mM)	Residual activity
NEM	2.0	109%
EDTA	5.0	103%
NaN ₃	20.0	83%
Proclin	0.045%	113%
Na-cholate	0.10%	117%
SDS	0.05%	108%
Triton X-100	0.10%	119%
Tween 20	0.10%	115%
Boric Acid-Borax	2.0	109%

Fig. 1 pH Activity

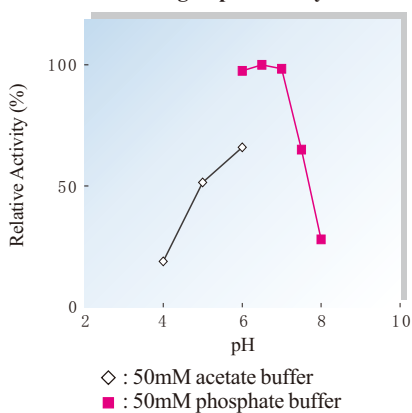


Fig. 3 Temperature activity

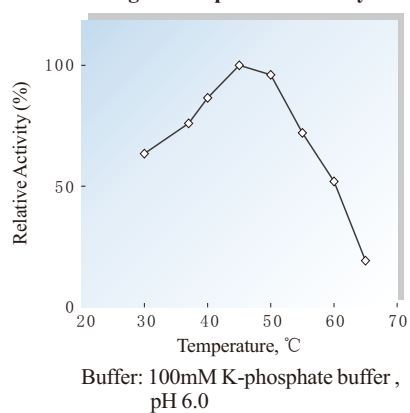


Fig. 2 pH Stability

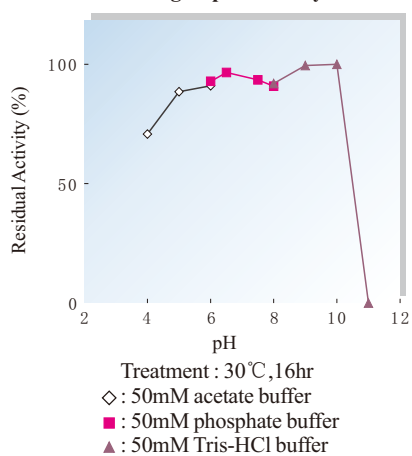


Fig. 4 Thermal stability

