

SARCOSINE OXIDASE

REACTION:



PRODUCT DESCRIPTION

Catalog No.:	qs50033
Appearance:	Yellowish amorphous powder
Source:	Microorganism
Enzyme Commission Number:	EC 1.5.3.1
CAS Number:	9029-22-5
Storage temperature:	-20°C
Specific activity:	≥ 40U/mg protein
Unit definition:	One unit will oxidase one micromole of Sarcosine per min at pH 8.0 at 37°C.

PROPERTIES

Molecular weight:	44kDa (SDS-PAGE)	
Isoelectric point:	5.8	
Michaelis constant:	4.3×10^{-3} M (Sarcosine)	
Optimum pH:	8.0	{Fig. 1}
Optimum temperature:	50°C	{Fig. 3}
pH Stability:	6.0-10.5 (25°C, 24hr)	{Fig. 2}
Thermal stability:	< 50°C (pH 8.0, 30min)	{Fig. 4}
Inhibitors:	Cu ²⁺ , NEM, Proclin	
Effect of various chemicals:		{Table 1}

Table 1.

Effect of Various Chemicals on SOX

[The enzyme dissolved in 50mM Tris-HCl buffer, pH 8.0 (10U/ml) was incubated with each chemical at 37°C for 2hr.]

Chemical	Concn. (mM)	Residual activity
None	-	100%
CaCl ₂	2.0	114%
CoCl ₂	2.0	107%
CuSO ₄	2.0	48%
FeCl ₃	2.0	108%
MgSO ₄	2.0	113%
MnSO ₄	2.0	114%
NiCl ₂	2.0	115%
ZnSO ₄	2.0	87%

Chemical	Concn. (mM)	Residual activity
BME	2.0	104%
NEM	2.0	28%
EDTA	5.0	102%
Proclin	0.045%	29%
NaN ₃	20.0	89%
Na-cholate	0.10%	123%
SDS	0.05%	105%
Triton X-100	0.10%	128%
Tween 20	0.10%	130%

Fig. 1 pH Activity

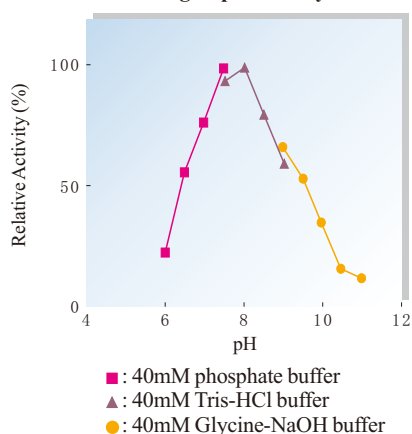


Fig. 3 Temperature activity

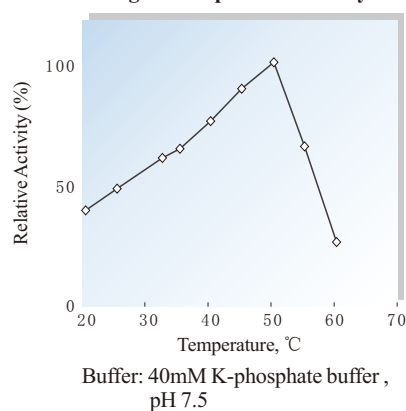


Fig. 2 pH Stability

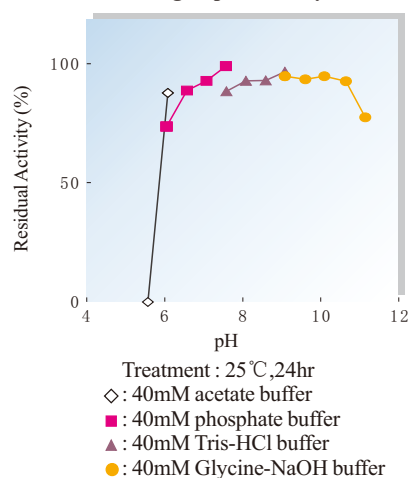


Fig. 4 Thermal stability

