

PHOSPHOENOLPYRUVATE CARBOXYLASE

Orthophosphate:oxaloacetate carboxy-lyase(Phosphorylating)

REACTION:



PRODUCT DESCRIPTION

Catalog No.:	qs50041
Appearance:	White amorphous powder
Source:	Microorganism
Enzyme Commission Number:	EC 4.1.1.31
CAS Number:	9067-77-0
Storage temperature:	-20°C
Specific activity:	≥ 80U/mg protein
Unit definition:	One unit will convert one micromole of phosphoenolpyruvate to oxaloacetate per min at pH 8.0 at 30°C.

PROPERTIES

Molecular weight:	105 kDa (SDS-PAGE)	
Isoelectric point:	6.4	
Michaelis constant:	3.5×10^{-4} (phosphoenol pyruvate)	
Optimum pH:	7.5	{Fig. 1}
Optimum temperature:	60°C	{Fig. 3}
pH Stability:	5.5~7.0 (25°C, 24hr)	{Fig. 2}
Thermal stability:	< 45°C (pH 7.0, 15min)	{Fig. 4}
Inhibitors:	Zn ²⁺ , NEM, SDS	
Effect of various chemicals:		{Table 1}

Table 1.

Effect of Various Chemicals on PEPC

[The enzyme dissolved in 100mM Tris-HCl buffer, pH 7.5 (20U/ml) was incubated with each chemical at 37°C for 2hr.]

Chemical	Concn. (mM)	Residual activity
None	-	100%
CaCl ₂	2.0	99%
CoCl ₂	2.0	108%
CuSO ₄	2.0	94%
FeCl ₃	2.0	110%
MgSO ₄	2.0	102%
MnSO ₄	2.0	109%
NiCl ₂	2.0	125%
ZnSO ₄	2.0	70%

Chemical	Concn. (mM)	Residual activity
BME	2.0	101%
NEM	2.0	48%
EDTA	5.0	100%
NaN ₃	20.0	100%
Na-cholate	0.10%	106%
SDS	0.05%	0%
Triton X-100	0.10%	112%
Tween 20	0.10%	116%

