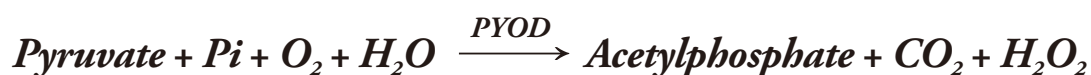


PYRUVATE OXIDASE

Pyruvate:oxygen 2-oxidoreductase (phosphorylating)

REACTION:



PRODUCT DESCRIPTION

Catalog No.:	qs50023
Appearance:	Yellowish amorphous powder
Source:	Microorganism
Enzyme Commission Number:	EC 1.2.3.3
CAS Number:	9001-96-1
Storage temperature:	-20°C
Specific activity:	≥ 50U/mg protein
Unit definition:	One unit will convert one micromole of pyruvate to acetylphosphate per min at pH 6.7 at 37°C.

PROPERTIES

Molecular weight:	68 kDa (SDS-PAGE)	
Isoelectric point:	5.0	
Michaelis constant:	5.3×10^{-4} M (Pyruvate, pH 7.0)	
Optimum pH:	7.0-7.5	{Fig. 1}
Optimum temperature:	50°C	{Fig. 3}
pH Stability:	6.0-7.5 (37°C, 60min)	{Fig. 2}
Thermal stability:	< 45°C (pH 6.5, 30min)	{Fig. 4}
Inhibitors:	Cu^{2+} , Ni^{2+} , Zn^{2+} , Proclin, NaN_3 , SDS, Triton X-100	
Effect of various chemicals:		{Table 1}

Table 1.

Effect of Various Chemicals on PYOD

[The enzyme dissolved in 200mM K-phosphate buffer, pH 6.5 (5U/ml) was incubated with each chemical at 37°C for 1hr.]

Chemical	Concn. (mM)	Residual activity
None	-	100%
CaCl ₂	2.0	88%
CoCl ₂	2.0	90%
CuSO ₄	2.0	62%
FeCl ₃	2.0	92%
K ₄ Fe(CN) ₆	2.0	89%
MgSO ₄	2.0	88%
MnSO ₄	2.0	86%
NiCl ₂	2.0	51%
ZnSO ₄	2.0	77%

Chemical	Concn. (mM)	Residual activity
BME	2.0	89%
NEM	2.0	92%
EDTA	5.0	94%
Proclin	0.045%	61%
NaN ₃	20.0	73%
Na-cholate	0.10%	94%
SDS	0.05%	1%
Triton X-100	0.10%	38%
Tween 20	0.10%	93%

