

ACYL-COA OXIDASE

Acyl-CoA:oxygen-2-oxidoreductase

REACTION:



PRODUCT DESCRIPTION

Catalog No.:	SDZ500300
Appearance:	Yellow amorphous powder
Source:	Microorganism
Enzyme Commission Number:	EC 1.3.3.6
CAS Number:	61116-22-1
Storage temperature:	-20°C
Specific activity:	≥ 30U/mg protein
Unit definition:	One unit will convert one micromole of Acyl-CoA to trans-2, 3-dehydroacyl-CoA per min at pH 7.5 at 37°C.

PROPERTIES

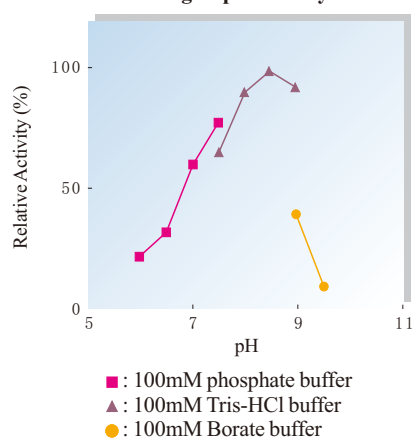
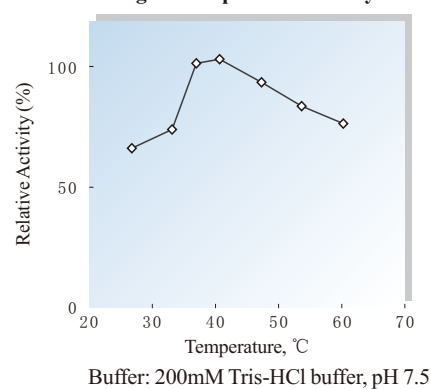
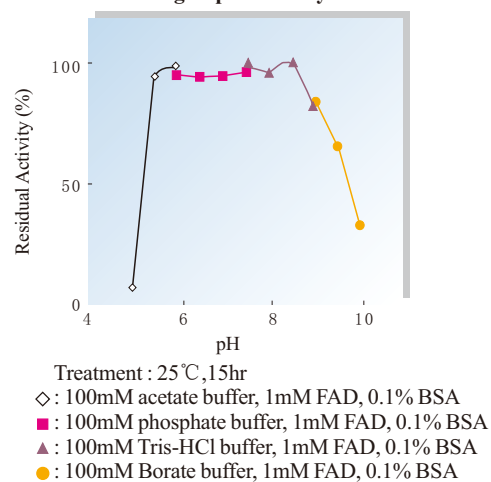
Molecular weight:	78 kDa (SDS-PAGE)	
Isoelectric point:	6.7	
Michaelis constant:	1.0 × 10 ⁻⁵ M (Palmitoyl-CoA)	
Optimum pH:	8.5	{Fig. 1}
Optimum temperature:	37-40°C	{Fig. 3}
pH Stability:	6.0-8.5 (25°C, 15hr)	{Fig. 2}
Thermal stability:	< 45°C (pH 7.5, 15min)	{Fig. 4}
Inhibitors:	Zn ²⁺ , Cu ²⁺ , Co ²⁺ , Ni ²⁺ , NEM, SDS, Proclin	
Effect of various chemicals:		{Table 1}

Table 1.**Effect of Various Chemicals on ACO**

[The enzyme dissolved in 50mM MOPS buffer, pH 7.5 (10U/ml) was incubated with each chemical at 37°C for 2hr.]

Chemical	Concn. (mM)	Residual activity
None	-	100%
CaCl ₂	2.0	98%
CoCl ₂	2.0	60%
CuSO ₄	2.0	5%
FeCl ₃	2.0	86%
MgSO ₄	2.0	103%
MnSO ₄	2.0	88%
NiCl ₂	2.0	10%
ZnSO ₄	2.0	5%
BME	2.0	89%

Chemical	Concn. (mM)	Residual activity
NEM	2.0	72%
EDTA	5.0	105%
NaN ₃	20.0	100%
Proclin	0.045%	61%
FAD	1.0	123%
Na-cholate	0.10%	91%
SDS	0.05%	34%
Triton X-100	0.10%	96%
Tween 20	0.10%	110%

Fig. 1 pH Activity**Fig. 3 Temperature activity****Fig. 2 pH Stability****Fig. 4 Thermal stability**