

# CREATINASE

Creatine amidinohydrolase

## REACTION:



## PRODUCT DESCRIPTION

Catalog No.:	qs50035
Appearance:	White amorphous powder
Source:	Microorganism
Enzyme Commission Number:	EC 3.5.3.3
CAS Number:	37340-58-2
Storage temperature:	-20°C
Specific activity:	≥ 5U/mg protein
Unit definition:	One unit causes the formation of one micromole of sarcosine from creatine per min at pH 7.5 at 37°C.

## PROPERTIES

Molecular weight:	~43kDa (SDS-PAGE)	
Isoelectric point:	5.9	
Michaelis constant:	6.5 × 10 <sup>-3</sup> M (Creatine)	
Optimum pH:	7.0~9.0	{Fig. 1}
Optimum temperature:	50°C	{Fig. 3}
pH Stability:	7.5~10.5 (25°C, 24hr)	{Fig. 2}
Thermal stability:	< 50°C (pH 7.5, 30min)	{Fig. 4}
Inhibitors:	Cu <sup>2+</sup> , Fe <sup>3+</sup> , Zn <sup>2+</sup> , NEM, Proclin, SDS	
Effect of various chemicals:		{Table 1}

**Table 1.**

**Effect of Various Chemicals on CRH**

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

Chemical	Concn. (mM)	Residual activity
None	-	100%
CaCl <sub>2</sub>	2.0	92%
CoCl <sub>2</sub>	2.0	89%
CuSO <sub>4</sub>	2.0	0%
FeCl <sub>3</sub>	2.0	78%
MgSO <sub>4</sub>	2.0	90%
MnSO <sub>4</sub>	2.0	90%
NiCl <sub>2</sub>	2.0	83%
ZnSO <sub>4</sub>	2.0	0%

Chemical	Concn. (mM)	Residual activity
BME	2.0	90%
NEM	2.0	6%
EDTA	5.0	95%
NaN <sub>3</sub>	20.0	92%
Proclin	0.045%	10%
Na-cholate	0.10%	100%
SDS	0.05%	18%
Triton X-100	0.10%	114%
Tween 20	0.10%	110%

