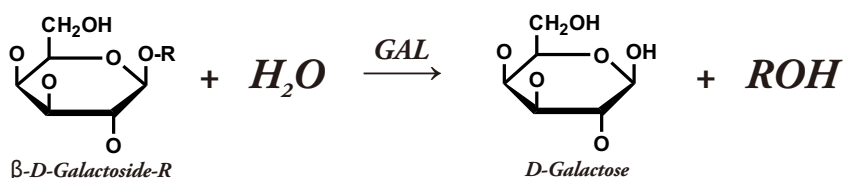


**$\beta$ -GALACTOSIDASE** $\beta$ -D-Galactoside galactohydrolase**REACTION:****PRODUCT DESCRIPTION**

Catalog No.:	qs50019
Appearance:	White amorphous powder
Source:	Microorganism
Enzyme Commission Number:	EC 3.2.1.23
CAS Number:	9031-11-2
Storage temperature:	-20°C
Specific activity:	≥ 400U/mg protein
Unit definition:	One unit will cause the formation of one micromole of ONP from ONPG per min at pH 7.3 at 37°C.

**PROPERTIES**

Molecular weight:	118 kDa (SDS-PAGE)	
Isoelectric point:	4.6	
Michaelis constant:	$3.4 \times 10^{-4}$ M (O-Nitrophenyl- $\beta$ -D-Galactoside)	
Optimum pH:	7.0	{Fig. 1}
Optimum temperature:	50°C	{Fig. 3}
pH Stability:	5.5~9.5 (25°C, 20hr)	{Fig. 2}
Thermal stability:	< 45°C (pH 7.3, 15min)	{Fig. 4}
Inhibitors:	$\text{Co}^{2+}$ , $\text{Cu}^{2+}$ , $\text{Ni}^{2+}$ , $\text{Zn}^{2+}$ , Proclin	
Effect of various chemicals:		{Table 1}

**Table 1.**

**Effect of Various Chemicals on GAL**

[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 <sub>2</sub>	2.0	85%
CoCl <sub>2</sub>	2.0	41%
CuSO <sub>4</sub>	2.0	11%
FeCl <sub>3</sub>	2.0	78%
MgSO <sub>4</sub>	2.0	106%
MnSO <sub>4</sub>	2.0	86%
NiCl <sub>2</sub>	2.0	48%
ZnSO <sub>4</sub>	2.0	9%
BME	2.0	92%

Chemical	Concn. (mM)	Residual activity
NEM	2.0	87%
EDTA	5.0	95%
NaN <sub>3</sub>	20.0	88%
Proclin	0.045%	64%
Na-cholate	0.10%	89%
SDS	0.05%	88%
Triton X-100	0.10%	104%
Tween 20	0.10%	99%
Boric Acid-Borax	2.0	104%

