PRODUCT CATALOGUE

V3-072014

β-Galactosidase from Escherichia coli

GAH-201

SPECIFICATIONS

Name	β-D-galactoside galactohydrolase
EC	3.2.1.23
Appearance	White amorphous powder, lyophilized
Activity	Grade II, 500 U/mg-solid or more
Contaminants	α-galactosidase ≤1×10^{-4} %, α-glucosidase ≤1×10^{-4}% β-glucosidase ≤2×10^{-3}%, β-mannosidase ≤1×10^{-4}% α-mannosidase ≤1×10^{-4}% proteinase ≤10mAbs/mg-P
Stabilizer	Mg^{2+}
Stability	Stable at - 20℃ for at least 12 months
Molecular weight	540,000
Isoelectric point	4.61
Michaelis constants	3.0×10^{-4}M (o-Nitrophenyl-β-D-galactoside), 6.7×10^{-5}M (p-Nitrophenyl-β-D-galactoside), 2.3×10^{-4}M (Phenyl-β-D-galactoside), 2.5×10^{-3}M (Lactose)
Inhibitors	p-Chloromercuribenzoate Iodoacetamide heavy metal ions (Zn^{2+} Fe^{3+} Cd^{2+} Cu^{2+} Pb^{2+} Ag^{+} Hg^{2+}), Ionic detergents (SDS, DAC, etc.)
Optimum pH	7.0 - 7.5
Optimum temperature	50 - 55℃
pH Stability	pH 6.5 - 8.5 (25℃, 20hr)
Thermal stability	below 50℃ (pH 7.3, 15min)
Substrate specificity	The enzyme specifically hydrolyzes β-D-galactosyl linkage

ENZYMES

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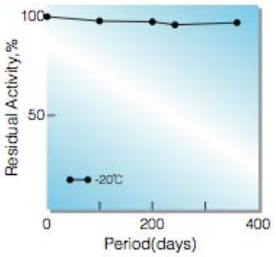

Fig.1. Stability (Powder form)
(kept under dry conditions)

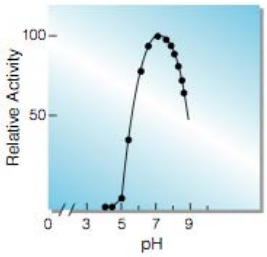

Fig.2. pH-Activity
(37℃,15 min-reaction in Britton-Robinson buffer)

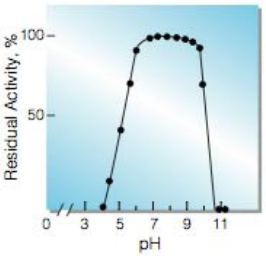

Fig.4. pH-Stability
(25℃,20hr-treatment with Britton-Robinson buffer)

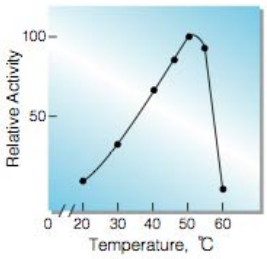

Fig.3. Temperature activity
(15min-reaction in 0.1M phospate buffer, pH7.3)

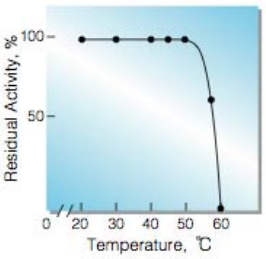

Fig.5. Thermal stability
(15min-treatment with 50mM phosphate buffer,pH7.3 contg. 1.0mM $MgCl_2$ enzyme concn.:80U/ml)