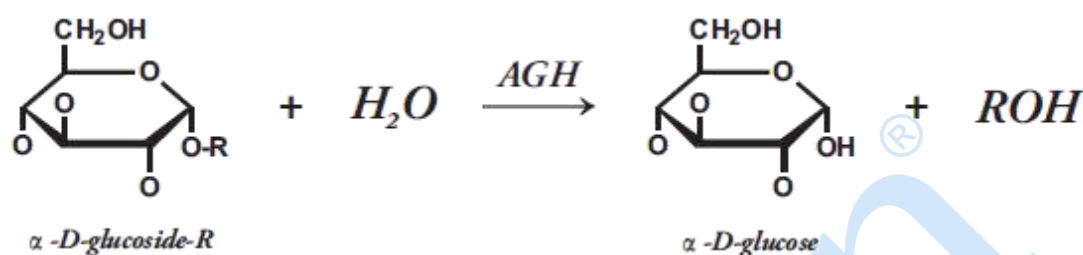


Recombinant α -Glucosidase (AGH)

R1505810

α -Glucosidase, a carbohydrate hydrolyzing enzyme, catalyzes the liberation of α -glucose from the non-reducing end of the substrate. α -Glucosidase can facilitate the absorption of glucose by the small intestine. Inhibition of α -Glucosidase is an effective management of non-insulin-dependent diabetes mellitus (NIDDM).

Reaction



Product description

Appearance: White amorphous powder.

Source: Microorganism.

Enzyme Commission Number: EC 3.2.1.20.

CAS Number: 9001-42-7.

Specific activity: ≥ 15 U/mg enzyme powder; ≥ 100 U/mg protein.

Unit definition: One unit will convert one micromole of PNPG to PNP per min at pH 7.0 at 37°C.

Properties

Molecular weight:	65kD (SDS-PAGE)	
Isoelectric point:	6.0	
Michaelis constant:	1.4×10^{-3} M (PNPG)	
Optimum pH:	6.0-6.5	{Fig. 1}
Optimum temperature:	60°C	{Fig. 3}
pH Stability:	6.0-8.5 (25°C, 24hr)	{Fig. 2}
Thermal stability:	< 60°C (pH 7.0, 30min)	{Fig. 4}
Effect of various chemicals:	Cu ²⁺ , Fe ³⁺ , Ni ²⁺ , SDS	{Table 1}

Storage Conditions

Store at -20°C long term (2 years). Upon reconstitution, it is recommended to aliquot. Avoid freeze/thaw cycle. Store in the dark. Desiccated.

Table 1.

Effect of Various Chemicals on AGH

[The enzyme dissolved in 20mM Tris-HCl buffer, pH 7.0 (5U/ml) was incubated with each chemical at 37 for 2hr.]

Chemical	Concn. (mM)	Residual activity
None	-	100%
CaCl ₂	2.0	103%
CoCl ₂	2.0	87%
CuSO ₄	2.0	11%
FeCl ₃	2.0	7%
MgSO ₄	2.0	105%
MnSO ₄	2.0	102%
NiCl ₂	2.0	79%
ZnSO ₄	2.0	90%
K ₄ Fe(CN) ₆	2.0	111%

Chemical	Concn. (mM)	Residual activity
BME	2.0	100%
NEM	2.0	102%
EDTA	5.0	105%
NaN ₃	20.0	117%
Proclin	0.045%	103%
Na-cholate	0.10%	98%
SDS	0.05%	0%
Triton X-100	0.10%	105%
Tween 20	0.10%	109%

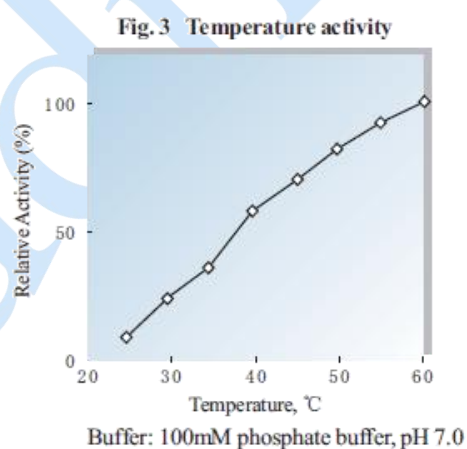
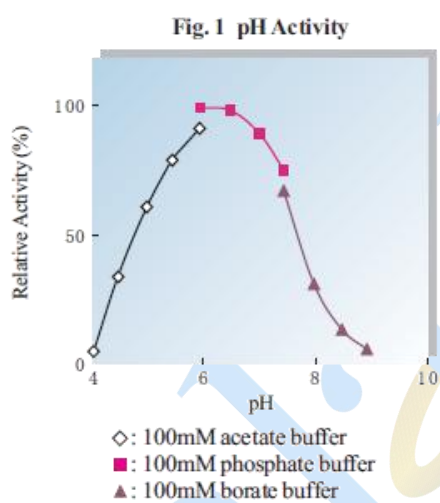


Fig. 2 pH Stability

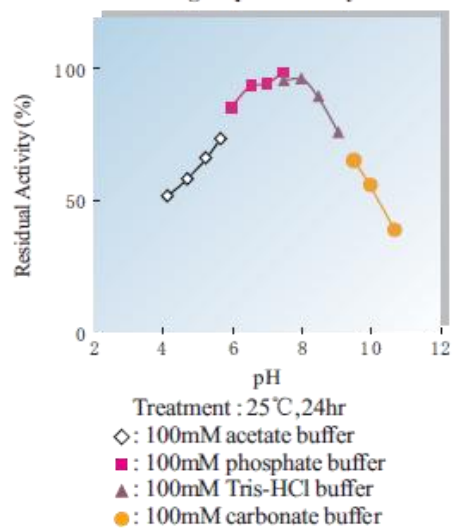


Fig. 4 Thermal stability

