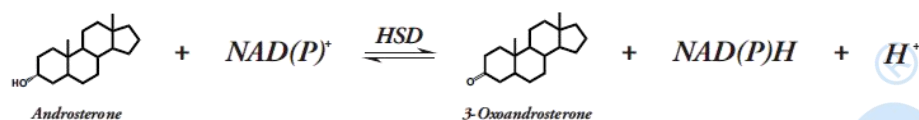


Recombinant 3 α -Hydroxysteroid Dehydrogenase (HSD)

H774052

3 α -Hydroxysteroid Dehydrogenase catalyze the conversion of 3-ketosteroids into 3 α -hydroxy compounds. 3 α -Hydroxysteroid dehydrogenase plays an important role in the inactivation of androgen DHT, and can convert DHT into 3 α -androstane-3 α ,17 β -diol with weak androgen activity, which can be used in the research of hirsutism.

Reaction



Product description

Appearance:	White amorphous powder
Source:	Microorganism
Enzyme Commission Number:	EC 1.1.1.50
CAS Number:	9028-56-2
Storage temperature:	-20°C
Activity:	≥20U/mg enzyme powder; ≥90U/mg protein
Unit definition:	One unit will oxidate one micromole of androsterone per min at pH 8.25 at 25°C.

Properties

Molecular weight:	28 kDa (SDS-PAGE)
Isoelectric point:	6.4
Michaelis constant:	3.0×10 ⁻⁵ M (Androsterone)6.0×10 ⁻⁶ M (NAD ⁺)
Optimum pH:	10.5 {Fig. 1}
Optimum temperature:	50°C-60°C {Fig. 3}
pH Stability:	4.5-10.5 (30°C, 20hr) {Fig. 2}
Thermal stability:	< 50°C (pH 7.2, 20min) {Fig. 4}
Inhibitors:	Cu ²⁺ ,Fe ³⁺ ,Zn ²⁺ ,NEM,Proclin,SDS
Effect of various chemicals:	{Table 1}

Storage Conditions

Store at -20°C long term (5 years). Upon reconstitution, it is recommended to aliquot. Avoid

freeze/thaw cycle. Store in the dark. Desiccated.

Table 1.

Effect of Various Chemicals on HSD

[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 ₂	2.0	97%
CoCl ₂	2.0	93%
CuSO ₄	2.0	0%
FeCl ₃	2.0	44%
MgSO ₄	2.0	96%
MnSO ₄	2.0	92%
NiCl ₂	2.0	94%
ZnSO ₄	2.0	25%

Chemical	Concn.(mM)	Residual activity
BME	2.0	94%
NEM	2.0	0%
EDTA	5.0	99%
NaN ₃	20.0	99%
Proclin	0.045%	0%
Na-cholate	0.10%	100%
SDS	0.05%	0%
Triton X-100	0.10%	102%
Tween 20	0.10%	106%

Fig. 1 pH Activity

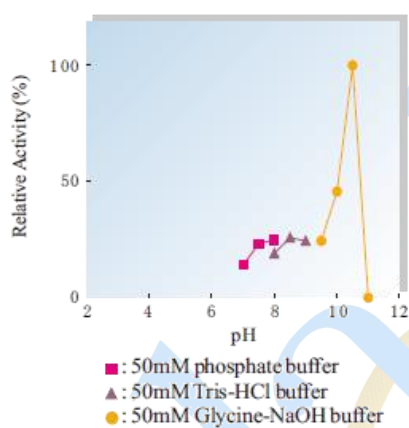


Fig. 3 Temperature activity

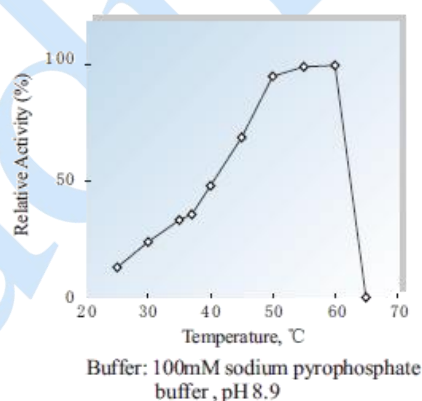


Fig. 2 pH Stability

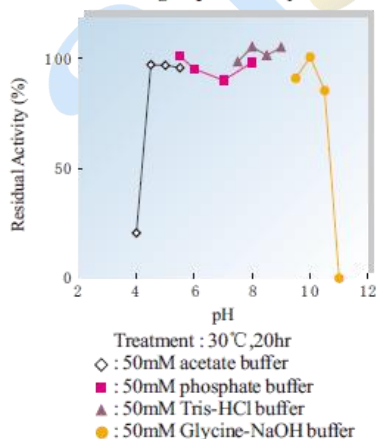


Fig. 4 Thermal stability

