Tribioscience

Glutamate dehydrogenase(NADP dependent), Enzyme Activity

Catalog	Unit
TBP0023-1KU	1000 U
TBP0023-5KU	5000 U

Preparation and Specification

Appearance: Solution with 50mM Tris-HCl buffer containing 0.05% NaN_3 and 5.0mM EDTA, pH 7.8

Activity: GradeII·III 300U/mg-protein or more (9,000U/ml or more)

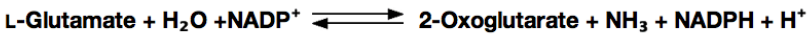
Contaminants: NADPH oxidase $\leq 1.0\times10^{-2}$%

Glutathione reductase $\leq 1.0\times10^{-2}$% (GradeII-209) $\leq 1.0\times10^{-1}$% (GradeIII-309)

Stabilizer: Ethylenediaminetetraacetic acid (EDTA)

Properties

L-Glutamate : $NADP^+$ oxidoreductase (deaminating) (EC 1.4.1.4)



Stability: Stable at -20°C for at least One year

Molecular weight: approx. 300,000

Isoelectric point: 4.6

Michaelis constants: 1.1×10^{-3}M (NH_3), 3.4×10^{-4}M (α-Ketoglutarate)

1.2×10^{-3}M (L-Glutamate), 1.4×10^{-5}M (NADPH), 1.5×10^{-5}M ($NADP^+$)

Structure: 6 subunits (M.W.50,000) per enzyme molecule

Inhibitors: Hg^{++}, Cd^{++}, p-chloromercuribenzoate, pyridine, 4-4'-dithiopyridine, 2,2'-dithiopyridine

Optimum pH: 8.5 (α-KG→L-Glu) 9.8 (L-Glu→α-KG)

Optimum temperature: 45°C (α-KG→L-Glu) 45-55°C (L-Glu→α-KG)

pH Stability: pH 6.0-8.5 (25°C, 20hr)

Thermal stability: below 50°C (pH 7.4, 10min)

Applications

This enzyme is useful for enzymatic determination of NH_3, α-ketoglutaric acid and L-glutamic acid, and for assay of leucine aminopeptidase and urease. This enzyme is also used for enzymatic determination of urea when coupled with urease in clinical analysis.

For research use only