# rhALT

## Alanine aminotransferase, recombinant from human liver

alanine transaminase (EC 2.6.1.2)

***Host cell : E. coli***

### Reaction Equation

L-Alanine + 2-Oxoglutarate = Pyruvate + L-Glutamate

### Specification

| | Specifications |
|---|---|
| **Specific Activity**<br>IU/mg protein | >500 units |
| **Purity**<br>SDS-PAGE analysis using 1 μg of the protein | single band |

### Profile

Total amino acid residue : 495 amino acids
N-terminal amino acid : Ala
MW : 55 kD (SDS-PAGE)
pI : 6.5
Km value : 20.5 mmol/L (L-Alanine)
0.44 mmol/L (2-Oxoglutarate)

### Assay Procedure

**Ⅰ. Spectrophotometric Method**

Wavelength ; 340 nm, Light path length ; 1 cm,
Temperature ; 30℃

Pipette the following reagents into a cuvette

| | |
|---|---|
| 2.40 mL | Tris-HCl buffer (100 mmol/L, pH 7.5, 30℃) containing NADH (0.2 mmol/L), L-Alanine (625 mmol/L), LDH (2.5 U/mL) |
| 0.60 mL | Tris-HCl buffer (100 mmol/L, pH 7.5, 30℃) containing 2-Oxoglutarate (75 mmol/L) |
| 0.02 mL | rhALT (about 3 IU/mL) |

**Ⅱ. Calculation**

$$\frac{\Delta A/\text{min} \cdot V \cdot D}{6.3 \cdot d \cdot v} = \text{IU/mL}$$

ΔA/min = The change in absorbance at 340 nm/minute
D = Enzyme dilution factor
V = Total volume of reaction mixture (3.02 mL)
6.3 = mM extinction coefficient of NADH
($L \cdot mmol^{-1} \cdot cm^{-1}$)
d = Light path length (1 cm)
v = Volume of enzyme sample (0.02 mL)

### Preparation and storage

Product Code : rhALT-04
Solution……below −20℃
IU per 1 ml solution is >1,000 units.

### OYC No./Package

| OYC No. | Package |
|---|---|
| 47242000 | 100 units |
| 47243900 | Bulk |

(Research reagent use only, not for medical use.)