



Optical Rotation: $[\alpha]_{\text{D}}^{26} -25.5$

>>**Derivative:** *N*-(4-Hydroxycinnamoyl)

Synonym(s): *N-p*-Coumaroyl-D-threonine

CAS Registry Number: 155179-35-4

Molecular Formula: $\text{C}_{13}\text{H}_{15}\text{NO}_5$

Molecular Weight: 265.265

Accurate Mass: 265.095024

Percentage Composition: C 58.86%; H 5.70%; N 5.28%; O 30.16%

Biological Source: Isol. from yeast-elicited *Ephedra distachya*

>>**Derivative:** Me ether

Synonym(s): 2-Amino-3-methoxybutanoic acid

Molecular Formula: $\text{C}_5\text{H}_{11}\text{NO}_3$

Molecular Weight: 133.147

Accurate Mass: 133.073894

Percentage Composition: C 45.10%; H 8.33%; N 10.52%; O 36.05%

Physical Description: Cryst. (EtOH aq.)

Melting Point: Mp 214-216°

Optical Rotation: $[\alpha]_{\text{D}}^{26} +38.2$

>>**Variant:** (2*S*,3*R*)-form

Synonym(s): L-Threonine

CAS Registry Number: 72-19-5

Molecular Formula: $\text{C}_4\text{H}_9\text{NO}_3$

Molecular Weight: 119.12

Accurate Mass: 119.058244

Percentage Composition: C 40.33%; H 7.62%; N 11.76%; O 40.29%

Biological Source: From wide variety of protein hydrolysates

Use/Importance: Dietary supplement, nutrient

Physical Description: Cryst. (EtOH aq.)

Melting Point: Mp 251-253 dec.°

Optical Rotation: $[\alpha]_{\text{D}}^{26} -33.9$ (H₂O)

Solubility: Sol. H₂O (20.5 g/100 ml at 25°)

pKa Value: $\text{p}K_{\text{a}1}$ 2.71; $\text{p}K_{\text{a}2}$ 9.62 (NH₂)

Other Data: Isoelectric point 6.16. Sweet taste

Hazard & Toxicity: LD₅₀ (rat, ipr) 3098 mg/kg

Aldrich: T3420-7

Fluka: 89179

Sigma: T4402

>>**Derivative:** Me ester

CAS Registry Number: 3373-59-9

Extra CAS Registry Numbers(s): 39994-75-7

Molecular Formula: $\text{C}_5\text{H}_{11}\text{NO}_3$

Molecular Weight: 133.147

Accurate Mass: 133.073894

Percentage Composition: C 45.10%; H 8.33%; N 10.52%; O 36.05%

Physical Description: Cryst. (EtOH)

Melting Point: Mp 63.5-64.5°

Optical Rotation: $[\alpha]_{\text{D}}^{23} -21$ (c,1 in HCl)

>>**Derivative:** *N*-Formyl

Molecular Formula: $\text{C}_5\text{H}_9\text{NO}_4$

Molecular Weight: 147.13

Accurate Mass: 147.053159

Percentage Composition: C 40.82%; H 6.17%; N 9.52%; O 43.50%

Physical Description: Cryst. (H₂O)

Melting Point: Mp 163-164°

Optical Rotation: $[\alpha]_{\text{D}}^{26} +11.8$