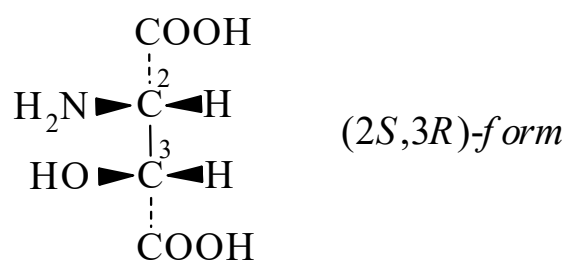




>>Entry Name: 2-Amino-3-hydroxybutanedioic acid

Synonym(s): 3-Hydroxyaspartic acid, 9Cl. 2-Amino-3-hydroxysuccinic acid



Molecular Formula: C₄H₇NO₅

Molecular Weight: 149.103

Accurate Mass: 149.032424

Percentage Composition: C 32.22%; H 4.73%; N 9.39%; O 53.65%

pKa Value: pK_{a1} 1.91; pK_{a2} 3.51; pK_{a3} 9.11 (25°)

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

Synonym(s): L-erythro-form

CAS Registry Number: 7298-98-8

Molecular Formula: C₄H₇NO₅

Molecular Weight: 149.103

Accurate Mass: 149.032424

Percentage Composition: C 32.22%; H 4.73%; N 9.39%; O 53.65%

Biological Source: Isol. from *Astragalus sinicus*. A component of Duramycin and human blood coagulation factor F

Physical Description: Cryst.

Optical Rotation: $[\alpha]_{\text{D}}^{24.5} -55.6$ (c, 0.9 in 1M HCl)

>>Derivative: β-Me ester

Molecular Formula: C₅H₉NO₅

Molecular Weight: 163.13

Accurate Mass: 163.048074

Percentage Composition: C 36.81%; H 5.56%; N 8.59%; O 49.04%

Physical Description: Cryst. (EtOH aq.)

Melting Point: Mp 229 dec.°

Optical Rotation: $[\alpha]_{\text{D}}^{22} +65.5$ (c, 1.8 in 1M HCl)

>>Derivative: 4-Amide

Synonym(s): 3-Hydroxyasparagine

CAS Registry Number: 20790-74-3

Molecular Formula: C₄H₈N₂O₄

Molecular Weight: 148.118

Accurate Mass: 148.048408

Percentage Composition: C 32.44%; H 5.44%; N 18.91%; O 43.21%

Physical Description: Cryst.

Melting Point: Mp 225-230° (260° dec.)

Optical Rotation: $[\alpha]_{\text{D}}^{23.5} +47.5$ (c, 0.8 in H₂O)

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

Synonym(s): L-threo-form

CAS Registry Number: 7298-99-9

Molecular Formula: C₄H₇NO₅

Molecular Weight: 149.103

Accurate Mass: 149.032424

Percentage Composition: C 32.22%; H 4.73%; N 9.39%; O 53.65%

Biological Source: Isol. from *Streptomyces* spp., *Arthrinium phaeospermum* and *Dactylosporangium aurantiacum*

Use/Importance: Active against gram-positive bacteria and mycobacteria. Inhibits L-aspartate β-carboxylase

Melting Point: Mp 210 dec.°

Optical Rotation: $[\alpha]_{368}^{26} +46$ (c, 0.5 in 1M HCl)

Solubility: BERDY SOL: Sol. acids; fairly sol. H₂O; poorly sol. MeOH, hexane

UV: [neutral] λ_{max} (H₂O) (Berdy)