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ProductInformation

L-Methionine, from non-animal source
Cell culture tested, meets EP, JP, & USP testing specifications

Product Number **M5308**
Store at Room Temperature

Product Description

Molecular Formula: $C_5H_{11}NO_2S$
Molecular Weight: 149.2
CAS Number: 63-68-3
pK_a: 2.28, 9.21[1]
Melting Point: 280 - 282 °C[2]
Rotation: +23.40 ° (50 mg/ml, 6 M HCl, 20 °C)[2]

This product is cell culture tested and is tested for the absence of endotoxins.

Methionine is one of the common sulfur-containing amino acids. The biosynthesis of methionine initially occurs by the condensation of homoserine and succinyl-CoA via the action of homoserine acyltransferase. Subsequently, cystathionine γ-synthase displaces the succinate group with cysteine to give cystathionine. Cystathionine β-lyase then hydrolyzes cystathionine to produce homocysteine. Transfer of a methyl group from N^5-methyltetrahydrofolate to the homocysteine forms methionine.[3]

Methionine is a common methyl-group donor to various substrates, such as creatine, epinephrine, ergosterol, and choline.[3] Methionine is a relatively hydrophobic amino acid residue, and as such is frequently buried in protein three-dimensional structure, making modification of methionine residues difficult.[4]

A review of the oxidation of methionine as it relates to oxidation of β-amyloid peptides has been published.[5]

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

This product is soluble in 1 M HCl (50 mg/ml), yielding a clear, colorless solution. This product is also soluble in water (50 mg/ml), with heat as needed.

Storage/Stability

Stock solutions are stable for approximately five years at 2-8 °C.

References

1. Biochemistry: A Case-Oriented Approach, 6th ed., Montgomery, R., et al., ed., Mosby (St. Louis, MO: 1996), p. 34.
2. The Merck Index, 12th ed., Entry# 6053.
3. Biochemistry, 2nd ed., Lehninger, A. L., Worth Publishers (New York, NY: 1975), pp. 699-701, 713-714.
4. Proteins LabFax, Price, N. C., ed., Bios Scientific (Oxford, UK: 1996), p. 290.
5. Schoneich, C., Redox processes of methionine relevant to beta-amyloid oxidation and Alzheimer's disease. Arch. Biochem. Biophys., **397(2)**, 370-376 (2002).

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