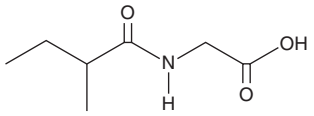
PRODUCT INFORMATION

2-Methylbutyrylglycine

Item No. 36379

CAS Registry No.: 52320-67-9
Formal Name: N-(2-methyl-1-oxobutyl)-glycine
Synonyms: 2-MBG, N-*sec*-Valerylglycine
MF: $C_7H_{13}NO_3$
FW: 159.2
Purity: ≥95%
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

2-Methylbutyrylglycine is supplied as a solid. A stock solution may be made by dissolving the 2-methylbutyrylglycine in the solvent of choice, which should be purged with an inert gas. 2-Methylbutyrylglycine is soluble in organic solvents such as ethanol and DMSO.

Description

2-Methylbutyrylglycine is a metabolite of the essential amino acid L-isoleucine.[1,2] It is produced by hydrolysis of the L-isoleucine catabolic intermediate (S)-2-methylbutyryl-CoA, which accumulates when the activity of 2-methylbutyryl-CoA dehydrogenase is deficient. 2-Methylbutyrylglycine (0.5-5 mM) induces the formation of thiobarbituric acid reactive substances (TBARS) in isolated rat cerebral cortex.[3] Elevated levels of 2-methylbutyrylglycine are associated with 2-methylbutyryl-CoA dehydrogenase deficiency (2-MBCDD), also known as short/branched-chain acyl-CoA dehydrogenase (SBCAD) deficiency.[1,2]

References

1. Gibson, K.M., Burlingame, T.G., Hogema, B., *et al.* 2-Methylbutyryl-coenzyme A dehydrogenase deficiency: A new inborn error of L-isoleucine metabolism. *Pediatr. Res.* **47(6)**, 830-833 (2000).
2. Fong, B.M.-W., Tam, S., and Leung, S.-Y. Quantification of acylglycines in human urine by HPLC electrospray ionization-tandem mass spectrometry and the establishment of pediatric reference interval in local Chinese. *Talanta* **88**, 193-200 (2012).
3. Knebel, L.A., Zanatta, Â., Tonin, A.M., *et al.* 2-Methylbutyrylglycine induces lipid oxidative damage and decreases the antioxidant defenses in rat brain. *Brain Res.* **1478**, 74-82 (2012).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent *via* email to your institution.

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