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Diagnostik & molekulare Diagnostik



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Lieferung & Zahlungsart

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Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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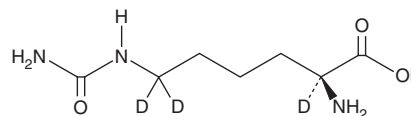
PRODUCT INFORMATION



Homocitrulline-d₃

Item No. 36339

Formal Name: N⁶-carbamoyl-L-lysine-2,6,6-d₃
Synonyms: ε-Carbamyllysine-d₃,
L-ε-Amino-Carbamoyl-Lysine-d₃
MF: C₇H₁₂D₃N₃O₃
FW: 192.2
Chemical Purity: ≥98% (L-Homocitrulline)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₃); ≤1% d₀
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

Homocitrulline-d₃ is intended for use as an internal standard for the quantification of homocitrulline (Item No. 34980) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

Description

Homocitrulline is an amino acid and a product of carbamylation, a post-translational modification of proteins and amino acids.^{1,2} It is formed by the adduction of isocyanic acid, a product of urea degradation or thiocyanate oxidation induced by myeloperoxidase (MPO), to the ε-amino group of lysine residues.² Protein-bound homocitrulline levels are increased in the aortas of transgenic *Ldlr*^{-/-} mice expressing human MPO fed a high-fat atherogenic diet.³ Intra-articular injection of homocitrulline-containing peptides induces the development of arthritis in mice.⁴ Homocitrulline-containing peptide and anti-homocitrulline antibody levels are increased in whole blood from patients with erosive rheumatoid arthritis compared to patients with non-erosive rheumatoid arthritis.

References

1. Shi, J., Knevel, R., Suwannalai, P., *et al.* Autoantibodies recognizing carbamylated proteins are present in sera of patients with rheumatoid arthritis and predict joint damage. *Proc. Natl. Acad. Sci. USA* **108**(42), 17372-17377 (2011).
2. Verbrugge, F.H., Tang, W.H.W., and Hazen, S.L. Protein carbamylation and cardiovascular disease. *Kidney Int.* **88**(3), 474-478 (2015).
3. Wang, Z., Nicholls, S.J., Rodriguez, E.R., *et al.* Protein carbamylation links inflammation, smoking, uremia and atherogenesis. *Nat. Med.* **13**(1), 1176-1184 (2007).
4. Mydel, P., Wang, Z., Brisslert, M., *et al.* Carbamylation-dependent activation of T cells: A novel mechanism in the pathogenesis of autoimmune arthritis. *J. Immunol.* **184**(12), 6882-6890 (2010).

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.

WARRANTY AND LIMITATION OF REMEDY

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