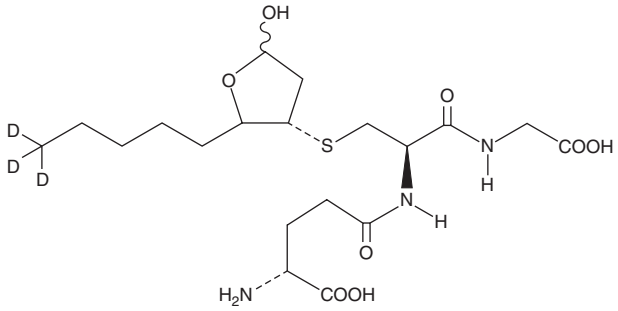
PRODUCT INFORMATION

4-hydroxy Nonenal Glutathione-d_3

Item No. 9000876

Formal Name: N^5-((2R)-1-((carboxymethyl)amino)-3-(((3S)-5-hydroxy-2-(pentyl-5,5,5-d_3) tetrahydrofuran-3-yl)thio)-1-oxopropan-2-yl)-D-glutamine
Synonym: 4-HNE-GSH-d_3
MF: $C_{19}H_{30}D_3N_3O_8S$
FW: 466.6
Chemical Purity: ≥95% (4-hydroxy Nonenal Glutathione-d_3)
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_3); ≤1% d_0
Supplied as: A lyophilized powder
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

4-hydroxy Nonenal Glutathione-d_3 (4-HNE-GSH-d_3) is intended for use as an internal standard for the quantification of 4-HNE-GSH 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

4-hydroxy-Nonenal (4-HNE) is a major aldehyde produced during the lipid peroxidation of ω-6 polyunsaturated fatty acids, such as arachidonic acid and linoleic acid.[1,2] 4-HNE-GSH is a major adduct formed by the reaction of 4-HNE with GSH.[3-6] 4-HNE-GSH levels in liver, plasma, or isolated cells can serve as biomarkers for oxidative stress.[7] The trapping of 4-HNE by glutathione to give HNE-GSH prevents the formation of DNA adducts with 4-HNE.[8,9] In human polymorphonuclear leukocytes, HNE-GSH is metabolized to 1,4-dihydroxynonene glutathione (DHN-GSH), 4-hydroxynonenoic acid glutathione (HNA-GSH), and 4-hydroxy nonenal mercapturic acid (HNE-MA).[3]

References

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