Palmitoyl Ethanolamide-d₅
Item No. 9000573

Formal Name: N-(2-hydroxyethyl)-hexadecanamide-
15,15,16,16,16-d₅
Synonyms: Palmidrol-d₅, PEA-15,15,16,16,16-d₅
MF: C₁₁₁H₁₅D₅NO₂
FW: 304.5
Chemical Purity: ≥98%
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₅); ≤1% d₀
Stability: ≥2 years at -20°C
Supplied as: A solution in methyl acetate

Laboratory Procedures
Palmitoyl ethanolamide-d₅ (PEA-d₅) contains five deuterium atoms at 15, 15', 16, 16, and 16 positions. It is intended for use as an internal standard for the quantification of PEA by GC- or LC-mass spectrometry (MS). For long term storage, we suggest that PEA-d₅ be stored as supplied at -20°C. It should be stable for at least two years.

PEA-d₅ is used as an internal standard for the quantification of PEA by stable isotope dilution 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).

PEA-d₅ is supplied as a solution in methyl acetate. To change the solvent, simply evaporate the methyl acetate under a gentle stream of nitrogen and immediately add the solvent of choice. PEA-d₅ is soluble in organic solvents such as ethanol and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of PEA-d₅ in ethanol is approximately 5 mg/ml and approximately 2 mg/ml in DMF.

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PEA is an endogenous cannabinoid (CB) found in brain, liver, and other mammalian tissues. PEA has also been isolated from egg yolk, and found to have anti-anaphylactic and anti-inflammatory activity in vitro. PEA is an endocannabinoid which has been shown to significantly elevate cAMP in cells expressing CB₁ receptors. However, its affinity for CB₂ receptors is relatively low, at about 10 µM. CB₁ receptors have no appreciable affinity for PEA.

References

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