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Produktinformation



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Laborgeräte & Service

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Lieferung & Zahlungsart

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Zuschläge

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- Trockeneiszuschlag
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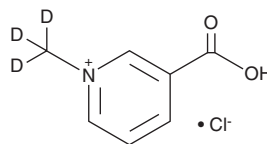
PRODUCT INFORMATION



Trigonelline-d₃ (chloride)

Item No. 36340

| | |
|---------------------------------|---|
| Formal Name: | 3-carboxy-1-(methyl-d ₃)-pyridinium, monochloride |
| Synonym: | N-methyl Nicotinic Acid Betaine-d ₃ |
| MF: | C ₇ H ₅ D ₃ NO ₂ • Cl |
| FW: | 176.6 |
| Chemical Purity: | ≥95% (Trigonelline) |
| Deuterium Incorporation: | ≥99% deuterated forms (d ₁ -d ₃); ≤1% d ₀ |
| Supplied as: | A solid |
| Storage: | -20°C |
| Stability: | ≥4 years |
| Item Origin: | Synthetic |



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

Laboratory Procedures

Trigonelline-d₃ (chloride) is intended for use as an internal standard for the quantification of trigonelline (Item No. 11904) 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).

Trigonelline-d₃ (chloride) is supplied as a solid. A stock solution may be made by dissolving the trigonelline-d₃ (chloride) in the solvent of choice, which should be purged with an inert gas. Trigonelline-d₃ (chloride) is soluble in the organic solvent DMSO. Trigonelline-d₃ (chloride) is slightly soluble in ethanol and dimethyl formamide.

Description

Trigonelline is an alkaloid that has been found in *L. japonicus* and an active metabolite of niacin that has diverse biological activities.¹⁻⁴ It increases levels of the brown fat marker proteins PRDM16, PGC-1 α , and UCP1 in 3T3-L1 adipocytes when used at a concentration of 75 μ M.¹ Trigonelline inhibits degranulation of, and decreases the production of IL-6 and TNF- α in, activated primary mouse bone marrow mast cells (BMMCs).² *In vivo*, trigonelline (200 mg/kg) reduces serum IgE levels, pulmonary immune cell infiltration, and mucus secretion in a mouse model of ovalbumin-induced allergic asthma. It reduces serum levels of IL-1 β , IL-6, IL-18, and malondialdehyde (MDA) and renal cell apoptosis, as well as increases protein levels of peroxisome proliferator-activated receptor γ (PPAR γ) in a rat model of high-fat diet- and streptozotocin-induced type 2 diabetic nephropathy when administered at a dose of 40 mg/kg.³ Trigonelline (50 mg/kg) reduces hepatic *de novo* lipogenesis, induces hepatic autophagy, and prevents weight gain, insulin resistance, and hepatic steatosis in a mouse model of high-cholesterol and high-fat diet-induced non-alcoholic fatty liver disease (NAFLD).⁴

References

1. Choi, M., Mukherjee, S., and Yun, J.W. *Phytother Res.* **35**(2), 1113-1124 (2021).
2. Zhang, W., Zhang, Y., Chen, S., et al. *Front. Pharmacol.* **12**, 687970 (2021).
3. Li, Y., Li, Q., Wang, C., et al. *Exp. Ther. Med.* **18**(2), 1331-1337 (2019).
4. Sharma, L., Lone, N.A., Knott, R.M., et al. *Food Chem. Toxicol.* **121**, 283-296 (2018).

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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