

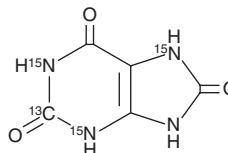
PRODUCT INFORMATION



Uric Acid- ^{13}C , $^{15}\text{N}_3$

Item No. 44020

CAS Registry No.: 2421217-23-2
Formal Name: 7,9-dihydro-1H-purine-2,6,8(3H)-trione-2- ^{13}C -1,3,7- $^{15}\text{N}_3$
MF: $\text{C}_4[^{13}\text{C}]\text{H}_4\text{N}[^{15}\text{N}]_3\text{O}_3$
FW: 172.1
Purity: $\geq 95\%$
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

Uric acid- ^{13}C , $^{15}\text{N}_3$ is supplied as a solid. A stock solution may be made by dissolving the uric acid- ^{13}C , $^{15}\text{N}_3$ in water. We do not recommend storing the aqueous solution for more than one day.

Description

Uric acid- ^{13}C , $^{15}\text{N}_3$ is intended for use as an internal standard for the quantification of uric acid (Item No. 16219) by GC- or LC-MS. Uric acid is a ubiquitous end product of purine metabolism in humans that is mainly excreted in urine, whereas in other mammals it is further metabolized to allantoin by uricase.¹ The final two steps in its production are catalyzed by xanthine oxidase, which generates superoxide.² Uric acid acts as a potent peroxynitrite scavenger and antioxidant.¹⁻³ However, high levels of serum uric acid ($>120 \mu\text{g/ml}$), termed hyperuricemia, are associated with gout, kidney stones, metabolic syndrome, hypertension, renal disease, and cardiovascular disease.^{1,4-7} Uric acid, in its soluble form, increases IL-1 β levels in bone marrow-derived macrophages (BMDMs) in a manner dependent on NOD-like receptor protein 3 (NLRP3) and myeloid differentiation factor 88 (MyD88).⁸ It also increases proteinuria and induces renal collagen deposition in a mouse model of obstructive nephropathy, effects that can be reduced by allopurinol (Item No. 10012597).

References

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6. Heinig, M. and Johnson, R.J. Role of uric acid in hypertension, renal disease, and metabolic syndrome. *Cleve. Clin. J. Med.* **73**(12), 1059-1064 (2006).
7. Nakagawa, T., Hu, H., Zharikov, S., *et al.* A causal role for uric acid in fructose-induced metabolic syndrome. *Am. J. Physiol. Renal Physiol.* **290**(3), F625-F631 (2006).
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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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