

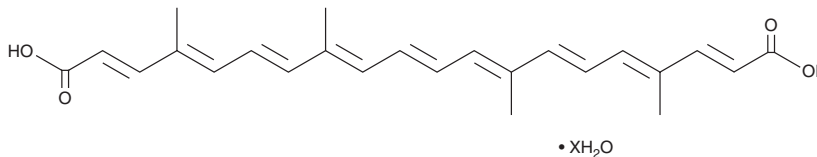
PRODUCT INFORMATION



Norbixin (hydrate)

Item No. 40132

Formal Name: 4,8,13,17-tetramethyl-2E,4E,6E,8E,10E,12E,14E,16E,18E-eicosanonaenedioic acid, hydrate
MF: C₂₄H₂₈O₄ • XH₂O
FW: 380.5
Purity: ≥70%
Supplied as: A solid
Storage: -80°C
Stability: ≥2 years
Item Origin: Synthetic



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

Laboratory Procedures

Norbixin (hydrate) is supplied as a solid. A stock solution may be made by dissolving the norbixin (hydrate) in the solvent of choice, which should be purged with an inert gas. Norbixin (hydrate) is slightly soluble in DMSO, methanol, and THF.

Description

Norbixin is a carotenoid that has been found in *B. orellana* and has diverse biological activities.¹⁻⁴ It binds to peroxisome proliferator-activated receptor γ (PPAR γ) in a cell-free assay ($K_i = 1.15 \mu\text{M}$).¹ Norbixin (47.7 mg/kg) attenuates hyperglycemia, hyperinsulinemia, and insulin resistance, as well as decreases serum lipid levels and cardiac levels of thiobarbituric acid reactive substances (TBARS) and glutathione (GSH) in a rat model of cardio-metabolic syndrome. It decreases serum levels of oxidized LDL and aortic protein oxidation, as well as reduces atherosclerotic area, in a rabbit model of cholesterol-induced atherosclerosis.² Norbixin (0.1 and 1 mg/kg per day) reduces mercury-induced DNA damage in isolated rat hepatocytes and leukocytes.³ It also prevents photoreceptor degeneration in an *Abca4*^{-/-} *Rdh8*^{-/-} mouse model of age-related macular degeneration (AMD).⁴

References

1. A, R., Agrawal, N., Kumar, H., *et al.* Norbixin, an apocarotenoid derivative activates PPAR γ in cardiometabolic syndrome: Validation by in silico and in vivo experimental assessment. *Life Sci.* **209**, 69-77 (2018).
2. Somacal, S., Quatrin, A., Ruviano, A.R., *et al.* Norbixin, a natural dye that improves serum lipid profile in rabbits and prevents LDL oxidation. *Food Res. Int.* **159**, 111522 (2022).
3. Barcelos, G.R.M., Grotto, D., Serpeloni, J.M., *et al.* Bixin and norbixin protect against DNA-damage and alterations of redox status induced by methylmercury exposure in vivo. *Environ. Mol. Mutagen.* **53(7)**, 535-541 (2012).
4. Fontaine, V., Monteiro, E., M., F., *et al.* Systemic administration of the di-apocarotenoid norbixin (BIO201) is neuroprotective, preserves photoreceptor function and inhibits A2E and lipofuscin accumulation in animal models of age-related macular degeneration and Stargardt disease. *Aging (Albany N.Y.)* **12(7)**, 6151-6171 (2020).

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

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 11/27/2023

CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM