

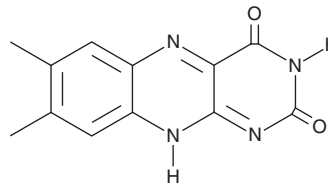
# PRODUCT INFORMATION



## Lumichrome

Item No. 20730

**CAS Registry No.:** 1086-80-2  
**Formal Name:** 7,8-dimethyl-benzo[g]pteridine-2,4(1H,3H)-dione  
**Synonyms:** 7,8-Dimethylalloxazine, NSC 96911  
**MF:** C<sub>12</sub>H<sub>10</sub>N<sub>4</sub>O<sub>2</sub>  
**FW:** 242.2  
**Purity:** ≥90%  
**UV/Vis.:** λ<sub>max</sub>: 219, 248, 335, 384 nm  
**Supplied as:** A crystalline 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

Lumichrome is supplied as a crystalline solid. A stock solution may be made by dissolving the lumichrome in the solvent of choice. Lumichrome is sparingly soluble in methanol.

### Description

Lumichrome is a natural metabolite of riboflavin. It can be made by photolysis of riboflavin or it can be produced enzymatically in certain microbes and plants.<sup>1-3</sup> Lumichrome produced by *Rhizobium* and other bacterial species induces major developmental changes in plants at nanomolar concentrations.<sup>2,4</sup> Lumichrome can stimulate larval metamorphosis in ascidians and activate the LasR quorum sensing receptor of bacteria.<sup>5,6</sup> Lumichrome competitively inhibits the uptake of riboflavin by riboflavin transporters from prokaryotes and eukaryotes.<sup>7,8</sup>

### References

1. Ahmad, I., Anwar, Z., Ahmed, S., et al. *AAPS PharmSciTech.* **16(5)**, 1122-1128 (2015).
2. Dakora, F.D., Matiru, V.N., and Kanu, A.S. *Front. Plant Sci.* **6(700)**, (2015).
3. Yamamoto, K., and Asano, Y. *Appl. Environ. Microbiol.* **81(21)**, 7360-7367 (2015).
4. Matiru, V.N., and Dakora, F.D. *New Phytol.* **166(2)**, 439-444 (2005).
5. Rajamani, S., Bauer, W.D., Robinson, J.B., et al. *Mol. Plant Microbe. Interact.* **21(9)**, 1184-1192 (2008).
6. Tsukamoto, S., Kato, H., Hirota, H., et al. *Eur. J. Biochem.* **264(3)**, 785-789 (1999).
7. Balcazar, D.E., Vanrell, M.C., Romano, P.S., et al. *PLoS Negl. Trop. Dis.* **11(4)**, e0005513 (2017).
8. Said, H.M., Wang, S., and Ma, T.Y. *J. Physiol.* **556 (Pt 2)**, 369-377 (2005).

#### 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, 02/15/2024

#### 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