# PRODUCT INFORMATION

## Atranorin

*Item No. 28106*

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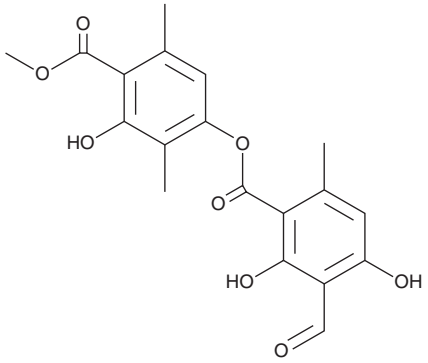
| **CAS Registry No.:** | 479-20-9 |
| **Formal Name:** | 3-formyl-2,4-dihydroxy-6-methyl-benzoic acid, 3-hydroxy-4-(methoxycarbonyl)-2,5-dimethylphenyl ester |
| **Synonyms:** | NSC 87512, NSC 249980, NSC 685591 |
| **MF:** | $C_{19}H_{18}O_8$ |
| **FW:** | 374.3 |
| **Purity:** | ≥95% |
| **UV/Vis.:** | $\lambda_{max}$: 251 nm |
| **Supplied as:** | A crystalline solid |
| **Storage:** | -20°C |
| **Stability:** | ≥4 years |
| **Item Origin:** | Plant/*Litchi chinensis* |




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

### Laboratory Procedures

Atranorin is supplied as a crystalline solid. A stock solution may be made by dissolving the atranorin in the solvent of choice, which should be purged with an inert gas. Atranorin is soluble in organic solvents such as chloroform and DMSO.

### Description

Atranorin is a depside lichen metabolite that has been found in *S. alpinum* and has diverse biological activities.[1-4] It is active against the bacteria *B. cereus*, *B. subtilis*, *S. aureus*, *S. faecalis*, *P. vulgaris*, *L. monocytogenes*, and *A. hydrophila* (MICs = 1.67, 0.38, 26.7, 13.4, 3.34, 9.83, and 1.67 mM, respectively), the fungi *C. albicans* and *C. glabrata* (MIC = 26.7 mM for both), as well as the mycobacterium *M. aurum* (MIC = 250 µg/ml).[1,2] Atranorin is cytotoxic to A270, HL-60, and Jurkat cancer cells ($IC_{50}$s = 197.9, 93.5, and 181.6 µM, respectively) but not HeLa, MCF-7, SK-BR-3, or HT-29 cancer cells ($IC_{50}$s = >200 µM).[3] It inhibits acetic acid-induced writhing in mice when administered orally at doses of 200 and 400 mg/kg.[4] Atranorin (200 and 400 mg/kg, p.o.) also reduces paw licking and biting in the second, but not first, phase of the formalin test when administered 30 minutes prior to formalin in mice.

### References


1. Ingólfsdóttir, K., Chung, G.A., Skúlason, V.G., *et al.* Antimycobacterial activity of lichen metabolites *in vitro*. *Eur. J. Pharm. Sci.* **6(2)**, 141-144 (1998).
2. Yilmaz, M., Türk, A.O., Tay, T., *et al.* The antimicrobial activity of extracts of the lichen *Cladonia foliacea* and its (–)-usnic acid, atranorin, and fumarprotocetraric acid constituents. *Z. Naturforsch. C. J. Biosci.* **59(3-4)**, 249-254 (2004).
3. Bačkorová, M., Bačkor, M., Mikeš, J., *et al.* Variable responses of different human cancer cells to the lichen compounds parietin, atranorin, usnic acid and gyrophoric acid. *Toxicol. In Vitro* **25(1)**, 37-44 (2011).
4. Melo, M.G.D., Araújo, A.A.S., Rocha, C.P.L., *et al.* Purification, physicochemical properties, thermal analysis and antinociceptive effect of atranorin extracted from *Cladina kalbii*. *Biol. Pharm. Bull.* **31(10)**, 1977-1980 (2008).





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