

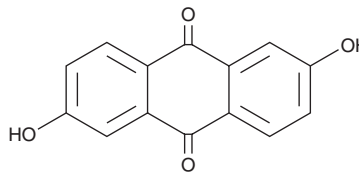
# PRODUCT INFORMATION



## Anthraflavic Acid

Item No. 39246

**CAS Registry No.:** 84-60-6  
**Formal Name:** 2,6-dihydroxy-9,10-anthracenedione  
**Synonyms:** 2,6-Dihydroxyanthraquinone, 2,6-DHAQ, NSC 33531  
**MF:** C<sub>14</sub>H<sub>8</sub>O<sub>4</sub>  
**FW:** 240.2  
**Purity:** ≥95%  
**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

Anthraflavic acid is supplied as a solid. A stock solution may be made by dissolving the anthraflavic acid in the solvent of choice, which should be purged with an inert gas. Anthraflavic acid is slightly soluble in acetonitrile.

Anthraflavic acid is slightly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

### Description

Anthraflavic acid is a polyketide synthase-derived anthraquinone that has been found in *Rhei Rhizoma* and has diverse biological activities.<sup>1-6</sup> It inhibits α-amylase in a cell-free assay (IC<sub>50</sub> = 198.3 nM) and cytochrome P450 activity induced by a mixture of polychlorinated biphenyls (PCBs) in rat hepatic microsomes.<sup>3,4</sup> Anthraflavic acid binds to estrogen receptor α (ERα) and ERβ (K<sub>s</sub> = 0.31 and 0.69 μM, respectively).<sup>5</sup> It is cytotoxic against a panel of six breast cancer cell lines (IC<sub>50</sub>s = 156-241 μg/ml).<sup>3</sup> Anthraflavic acid (50 μM) inhibits mutagenicity induced by the carcinogen 2-amino-6-methyldipyrido[1,2-a:3',2'-d]imidazole (Glu-P-1) in the Ames test using *S. typhimurium*.<sup>4</sup> Topical application of anthraflavic acid (3 μmol/animal) reduces the number of tumors per mouse and the number of mice with tumors in a model of two-stage carcinogenesis initiated by 7,12-dimethylbenz[a]anthracene (DMBA; Item No. 30383) and promoted by 12-O-tetradecanoylphorbol-13-acetate (TPA; Item No. 10008014).<sup>6</sup> Anthraflavic acid has been used as an anolyte in redox flow batteries.<sup>7</sup>

### References

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2. Weng, W.-C. and Sheu, S.-J. *J. High Resol. Chromatogr.* **23(2)**, 143-148 (2000).
3. Zhao, G., Chinnathambi, A., Alahmadi, T.A., et al. *Arch. Med. Sci.* **19(6)**, 1850-1858 (2021).
4. Ayrton, A.D., Lewis, D.F., Ioannides, C., et al. *Biochim. Biophys. Acta* **916(3)**, 328-331 (1987).
5. Matsuda, H., Shimoda, H., Morikawa, T., et al. *Bioorg. Med. Chem. Lett.* **11(14)**, 1839-1842 (2001).
6. Mukhtar, H., Das, M., Khan, W.A., et al. *Cancer Res.* **48(9)**, 2361-2365 (1988).
7. Zhao, E.W., Shellard, J.K., Klusener, P.A.A., et al. *Chem. Commun. (Camb.)* **58(9)**, 1342-1345 (2022).

#### 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

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