

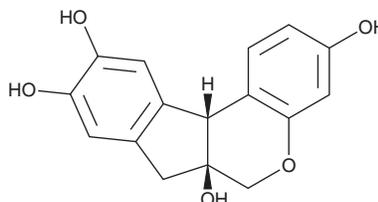
# PRODUCT INFORMATION



## Brazilin

Item No. 22456

**CAS Registry No.:** 474-07-7  
**Formal Name:** 7,11bR-dihydro-benz[b]indeno[1,2-d]pyran-3,6aS,9,10(6H)-tetrol  
**Synonyms:** (+)Brazilin, NSC 56652  
**MF:** C<sub>16</sub>H<sub>14</sub>O<sub>5</sub>  
**FW:** 286.3  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 290 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥2 years



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

### Laboratory Procedures

Brazilin is supplied as a crystalline solid. A stock solution may be made by dissolving the brazilin in the solvent of choice. Brazilin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of brazilin in these solvents is approximately 30 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of brazilin can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of brazilin in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

Brazilin is an isoflavonoid originally isolated from *C. sappan* that has diverse biological activities, including neuroprotective, anti-inflammatory, antibacterial, and antioxidant properties.<sup>1</sup> Brazilin inhibits amyloid Aβ (1-42) fibrillogenesis (IC<sub>50</sub> = 1.5 μM) more potently than (-)-epigallocatechin gallate (Item No. 70935), curcumin (Item No. 81025), and resveratrol (Item Nos. 10004235 | 70675).<sup>2</sup> It also prevents remodeling of mature Aβ (1-42) fibrils. Brazilin inhibits the production of cytokines, including PGE<sub>2</sub> and TNF-α (IC<sub>50</sub>s = 12.6 and 87.2 μM).<sup>3</sup> It is effective against Gram-positive and Gram-negative bacteria with MICs ranging from 31.3 to 250 μg/ml.<sup>4</sup> In addition, brazilin inhibits osteoclast differentiation mediated by RANKL and is protective against LPS-induced osteoporosis in mice at a dose of 100 mg/kg.<sup>5</sup>

### References

1. Lee, H., Kang, S.W., Byun, H.S., et al. *PloS One* **10(8)**, (2015).
2. Du, W.-J., Guo, J.-J., Gao, M.-T., et al. *Sci. Rep.* **5(7992)**, (2015).
3. Tewtrakul, S., Tungcharoen, P., Sudsai, T., et al. *L. Phytother. Res.* **29(6)**, 850-856 (2015).
4. Nirmal, N.P., and Panichayupakaranant, P. *Pharm. Biol.* **53(9)**, 1339-1343 (2015).
5. Kim, J., Lee, H.K., Chang, T.-S., et al. *Int. Immunopharmacol.* **29(2)**, 628-634 (2015).

#### 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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