

# PRODUCT INFORMATION



## Acetyl Podocarpic Acid Anhydride

Item No. 10007686

**CAS Registry No.:** 344327-48-6  
**Formal Name:** 6-(acetyloxy)-1,2,3,4,4a,9,10,10a-octahydro-1,4a-dimethyl-1-phenanthrenecarboxylic acid, anhydride

**Synonyms:** Acetylpodocarpic dimer, APD

**MF:** C<sub>38</sub>H<sub>46</sub>O<sub>7</sub>

**FW:** 614.8

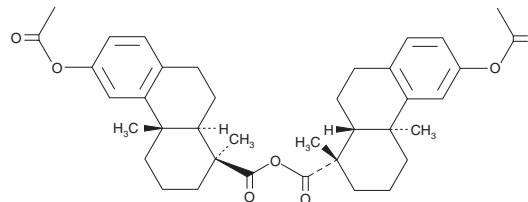
**Purity:** ≥98%

**UV/Vis.:** λ<sub>max</sub>: 208, 268 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

Acetyl podocarpic acid anhydride (APD) is supplied as a crystalline solid. A stock solution may be made by dissolving the APD in the solvent of choice, which should be purged with an inert gas. APD is soluble in the organic solvent dimethyl formamide at a concentration of approximately 1 mg/ml.

### Description

The liver X receptors (LXR $\alpha$  and LXR $\beta$ ) are nuclear hormone receptors whose native ligands are oxysterols.<sup>1</sup> APD is a potent, semisynthetic LXR agonist derived from extracts of the mayapple. APD acting through LXR in concert with the retinoid X receptor (RXR), its heterodimerization partner, induces the expression of the ABCA1 reverse cholesterol transporter.<sup>2</sup> This acts to increase the efflux of cholesterol from enterocytes and thus inhibits the overall absorption of cholesterol (ED<sub>50</sub> value of 1 nM).<sup>3</sup> In transient transactivation assays, APD was found to be approximately 1,000 times more potent and have 8-10-fold greater maximal stimulation of LXR than 22(R)-hydroxy cholesterol.<sup>3,4</sup> APD can be used as a positive control for the testing of LXR agonists, which have potential as therapeutic agents for the treatment of atherosclerosis.

### References

1. Repa, J.J., Turley, S.D., Lobaccaro, J.M.A., *et al.* Regulation of absorption and ABC1-mediated efflux of cholesterol by RXR heterodimers. *Science* **289(5484)**, 1524-1529 (2000).
2. Costet, P., Luo, Y., Wang, N., *et al.* Sterol-dependent transactivation of the ABC1 promoter by the liver X receptor/retinoid X receptor. *J. Biol. Chem.* **275(36)**, 28240-28245 (2000).
3. Sparrow, C.P., Baffic, J., Lam, M.H., *et al.* A potent synthetic LXR agonist is more effective than cholesterol loading at inducing ABCA1 mRNA and stimulating cholesterol efflux. *J. Biol. Chem.* **277(12)**, 10021-10027 (2002).
4. Singh, S.B., Ondeyka, J.G., Liu, W., *et al.* Discovery and development of dimeric podocarpic acid leads as potent agonists of liver X receptor with HDL cholesterol raising activity in mice and hamsters. *Bioorg. Med. Chem. Lett.* **15(11)**, 2824-2828 (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, 01/19/2024

#### 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