

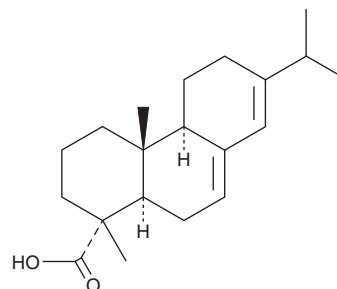
# PRODUCT INFORMATION



## Abietic Acid

Item No. 24927

**CAS Registry No.:** 514-10-3  
**Formal Name:** (1R,4aR,4bR,10aR)-1,2,3,4,4a,4b,5,6,10,10a-decahydro-1,4a-dimethyl-7-(1-methylethyl)-1-phenanthrenecarboxylic acid  
**Synonyms:** (-)-Abietic Acid, NSC 25149, Sylvic Acid  
**MF:** C<sub>20</sub>H<sub>30</sub>O<sub>2</sub>  
**FW:** 302.5  
**Purity:** ≥95%  
**UV/Vis.:** λ<sub>max</sub>: 241 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

Abietic acid is supplied as a crystalline solid. A stock solution may be made by dissolving the abietic acid in the solvent of choice, which should be purged with an inert gas. Abietic acid is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of abietic acid in ethanol is approximately 20 mg/ml and approximately 30 mg/ml in DMSO and DMF.

Abietic acid is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, abietic acid should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Abietic acid has a solubility of approximately 0.04 mg/ml in a 1:20 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Abietic acid is an abietane diterpene originally isolated from wood resin that has diverse biological activities, including enzyme inhibitory, antiproliferative, antibacterial, and anti-obesity properties.<sup>1-6</sup> It inhibits soybean 5-lipoxygenase (5-LO) and rat prostate testosterone 5 $\alpha$ -reductase in cell-free assays (IC<sub>50</sub>s = 29.5 and 56  $\mu$ M, respectively).<sup>2,3</sup> Abietic acid selectively inhibits proliferation of HeLa cervical cancer cells over noncancerous Vero cells (IC<sub>50</sub>s = 15 and 53  $\mu$ M, respectively) and inhibits the growth of *S. epidermidis*, *P. acnes*, and *S. mitis* bacteria (MICs = 8, 4, and 16  $\mu$ g/ml, respectively).<sup>4,5</sup> It induces expression of fatty acid binding protein 2 (FABP2; Item No. 10009548) and lipoprotein lipase (LPL) in differentiated 3T3-L1 mouse adipocytes when used at a concentration of 25  $\mu$ M.<sup>7</sup> Abietic acid (40 mg/kg per day) also decreases body and adipose tissue weight in mice fed a high-fat diet.<sup>6</sup>

### References

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#### 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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