

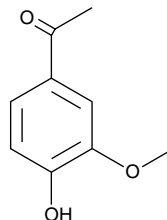
Product Information



Apocynin

Item No. 11976

CAS Registry No.: 498-02-2
Formal Name: 1-(4-hydroxy-3-methoxyphenyl)-ethanone
Synonyms: Acetoguaiacone, Acetovanillone, NSC 2146, NSC 209524
MF: C₉H₁₀O₃
FW: 166.2
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis.: λ_{max}: 229, 276, 304 nm



Laboratory Procedures

For long term storage, we suggest that apocynin be stored as supplied at -20°C. It should be stable for at least two years.

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

Apocynin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, apocynin should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Apocynin has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Apocynin is a compound isolated from the traditional medicinal plant *P. kurroa* and structurally related to vanillin that acts as an inhibitor of nicotinamide adenine dinucleotide phosphate (NADPH) oxidase activity.¹ Upon oxidation by myeloperoxidase, apocynin inhibits the assembly of a functional NADPH-oxidase complex that is responsible for reactive oxygen species production.^{2,3} At 300 μM it is effective in preventing the production of superoxide in human white blood cells or neutrophilic granulocytes, but does not however obstruct the phagocytic or other defense roles of granulocytes.¹⁻⁴ Due to the selectivity of its inhibition, apocynin can be widely used as an inhibitor of NADPH oxidase without interfering in other aspects of the immune system. It has been used in the treatment of arthritis, bowel disease, asthma, atherosclerosis, and familial amyotrophic lateral sclerosis.¹

References

1. Stefanska, J. and Pawliczak, R. Apocynin: Molecular aptitudes. *Mediators Inflamm.* **2008**, (2008).
2. Touyz, R.M. Apocynin, NADPH oxidase, and vascular cells: A complex matter. *Hypertension* **51**, 172-174 (2008).
3. Heumüller, S., Wind, S., Barbosa-Sicard, E., *et al.* Apocynin is not an inhibitor of vascular NADPH oxidases but an antioxidant. *Hypertension* **51**, 211-217 (2008).
4. Stolk, J., Hiltermann, T.J.N., Dijkman, J.H., *et al.* Characteristics of the inhibition of NADPH oxidase activation in neutrophils by apocynin, a methoxy-substituted catechol. *Am. J. Respir. Cell Mol. Biol.* **11**, 95-102 (1994).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/11976

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent *via email* to your institution.

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