

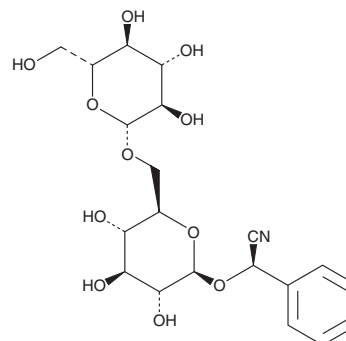
PRODUCT INFORMATION



Amygdalin

Item No. 26668

CAS Registry No.: 29883-15-6
Formal Name: αR-[[6-O-β-D-glucopyranosyl-β-D-glucopyranosyl)oxy]-benzeneacetonitrile
Synonyms: (-)-Amygdalin, (D)-Amygdalin, (R)-Amygdalin, Amygdaloside, NSC 15780
MF: C₂₀H₂₇NO₁₁
FW: 457.4
Purity: ≥98%
UV/Vis.: λ_{max}: 263 nm
Supplied as: A crystalline solid
Storage: 4°C
Stability: ≥4 years
Item Origin: Plant/*Amygdalus communis* vas



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

Laboratory Procedures

Amygdalin is supplied as a crystalline solid. A stock solution may be made by dissolving the amygdalin in the solvent of choice, which should be purged with an inert gas. Amygdalin is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of amygdalin in these solvents is approximately 10 and 14 mg/ml, respectively.

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 amygdalin can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of amygdalin in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Amygdalin is a cyanogenic glycoside that has been found in seeds from plants of the Rosaceae family and has diverse biological activities.¹⁻⁵ It induces cell cycle arrest at the G₀/G₁ phase, decreases cyclin A and Cdk2 levels, and inhibits cell growth in UMUC-3, RT112, and TCCSUP bladder cancer cells when used at concentrations ranging from 1.25 to 10 mg/ml.² Amygdalin (3 mg/kg) reduces the number of primary microtubules and microvessels in aortic rings isolated from rats with diabetes induced by streptozotocin (Item No. 13104).³ *In vivo*, amygdalin reduces triglyceride, total cholesterol, and LDL levels and aortic sinus plaque area in an *LDLR*^{-/-} mouse model of atherosclerosis.⁴ It also reduces production of TNF-α, IL-1β, and IL-6, as well as neutrophil and macrophage infiltration, in bronchoalveolar lavage fluid (BALF) in a mouse model of LPS-induced acute lung injury.⁵

References

1. Wahab, M.F., Breitbach, Z.S., Armstrong, D.W., *et al.* *J. Agric. Food Chem.* **63**(40), 8966-8973 (2015).
2. Makarević, J., Rutz, J., Juengel, E., *et al.* *PLoS One* **9**(8), e105590 (2014).
3. Mirmiranpour, H., Khaghani, S., Zandieh, A., *et al.* *Indian J. Pathol. Microbiol.* **55**(2), 211-214 (2012).
4. Lv, J., Xiong, W., Lei, T., *et al.* *Mol. Med. Rep.* **16**(6), 8171-8179 (2017).
5. Zhang, A., Pan, W., Lv, J., *et al.* *Inflammation* **40**(3), 745-751 (2017).

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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