

PRODUCT INFORMATION

Deoxyarbutin

Item No. 21077

CAS Registry No.: 53936-56-4

Formal Name: 4-[(tetrahydro-2H-pyran-2-yl)oxy]-phenol

MF: $C_{11}H_{14}O_3$

FW: 194.2

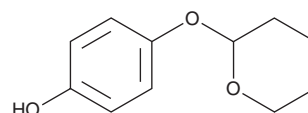
Purity: $\geq 98\%$

UV/Vis.: λ_{max} : 225, 289 nm

Supplied as: A solid

Storage: $4^{\circ}C$

Stability: ≥ 2 years



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

Laboratory Procedures

Deoxyarbutin is supplied as a solid. A stock solution may be made by dissolving the deoxyarbutin in the solvent of choice, which should be purged with an inert gas. Deoxyarbutin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of deoxyarbutin in ethanol is approximately 25 mg/ml and approximately 10 mg/ml in DMSO and DMF.

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

Description

Deoxyarbutin is a tyrosinase inhibitor ($IC_{50} = 17.5 \mu M$ for mushroom tyrosinase).¹ It reduces melanin content in isolated dark human melanocytes when used at a concentration of $1.56 \mu M$.² Topical administration of deoxyarbutin (5%) induces skin lightening in human skin mouse xenograft models. Deoxyarbutin also inhibits proliferation of B16/F10 murine melanoma cells ($EC_{50} = 39.56 \mu M$).³ It induces apoptosis and halts the cell cycle at the S phase in B16/F10 cells when used at a concentration of $50 \mu M$. Deoxyarbutin (50 mg/kg) reduces tumor growth in a B16/F10 murine melanoma model.

References

1. Chawla, S., deLong, M.A., Visscher, M.O., *et al.* Mechanism of tyrosinase inhibition by deoxyArbutin and its second-generation derivatives. *Br. J. Dermatol.* **159**(6), 1267-1274 (2008).
2. Hamed, S.H., Sriwiranont, P., deLong, M.A., *et al.* Comparative efficacy and safety of deoxyarbutin, a new tyrosinase-inhibiting agent. *J. Cosmet. Sci.* **57**(4), 291-308 (2006).
3. Ma, L., Xu, Y., Wei, Z., *et al.* Deoxyarbutin displays antitumour activity against melanoma *in vitro* and *in vivo* through a p38-mediated mitochondria associated apoptotic pathway. *Sci. Rep.* **7**(1), 7197 (2017).