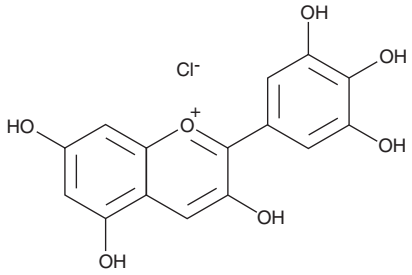
PRODUCT INFORMATION

Delphinidin (chloride)

Item No. 11012

CAS Registry No.:	528-53-0
Formal Name:	3,5,7-trihydroxy-2-(3,4,5-trihydroxyphenyl)-1-benzopyrylium, chloride
Synonym:	Ephdine
MF:	$C_{15}H_{11}O_7 \bullet Cl$
FW:	338.7
Purity:	≥97%
UV/Vis.:	λ_{max}: 276, 345, 352, 559 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

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

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

Description

Delphinidin (chloride) is an anthocyanidin, a natural plant pigment which serves as the precursor of certain anthocyanins that provide the blue-red colors of flowers, fruits, and red wine.[1] Delphinidin induces the release of nitric oxide by vascular endothelium, causing vasorelaxation.[2] It also inhibits signaling through epithelial growth factor receptors, suppressing the expression of estrogen receptor α and inducing both apoptosis and autophagy at a dose of 1-40 µM.[3,4] Delphinidin also inhibits the histone acetyltransferase activities of p300/CBP (IC_{50} = ~30 µM).[5]

References

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2. Andriambeloson, E., Magnier, C., Haan-Archipoff, G., *et al.* Natural dietary polyphenolic compounds cause endothelium-dependent vasorelaxation in rat thoracic aorta. *J. Nutr.* **128(12)**, 2324-2333 (1998).
3. Ozbay, T. and Nahta, R. Delphinidin inhibits HER2 and Erk1/2 signaling and suppresses growth of HER2-overexpressing and triple negative breast cancer cell lines. *Breast Cancer (Auckl)* **5**, 143-154 (2011).
4. Aiyer, H.S., Warri, A.M., Woode, D.R., *et al.* Influence of berry polyphenols on receptor signaling and cell-death pathways: Implications for breast cancer prevention. *J. Agric. Food Chem.* **60(23)**, 5693-5708 (2012).
5. Seong, A.-R., Yoo, J.-Y., Choi, K.C., *et al.* Delphinidin, a specific inhibitor of histone acetyltransferase, suppresses inflammatory signaling *via* prevention of NF-kB acetylation in fibroblast-llike synoviocyte MH7A cells. *Biochem. Biophys. Res. Commun.* **18(1)**, 581-586 (2011).

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