

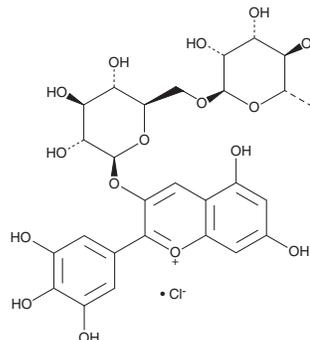
# PRODUCT INFORMATION



## Delphinidin-3-O-rutinoside (chloride)

Item No. 33552

**CAS Registry No.:** 15674-58-5  
**Formal Name:** 3-[[6-O-(6-deoxy- $\alpha$ -L-mannopyranosyl)- $\beta$ -D-glucopyranosyl]oxy]-5,7-dihydroxy-2-(3,4,5-trihydroxyphenyl)-1-benzopyrylium, monochloride  
**Synonyms:** Delphinidin 3-rutinoside, Tulipanin  
**MF:**  $C_{27}H_{31}O_{16} \cdot Cl$   
**FW:** 647.0  
**Purity:**  $\geq 95\%$   
**Supplied as:** A solid  
**Storage:**  $-20^{\circ}C$   
**Stability:**  $\geq 4$  years  
**Item Origin:** Plant/*Ribes nigrum* L.



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

### Laboratory Procedures

Delphinidin-3-O-rutinoside (chloride) is supplied as a solid. A stock solution may be made by dissolving the delphinidin-3-O-rutinoside (chloride) in the solvent of choice, which should be purged with an inert gas. Delphinidin-3-O-rutinoside (chloride) is slightly soluble (0.1-1 mg/ml) in acetonitrile.

Delphinidin-3-O-rutinoside (chloride) is slightly soluble (0.1-1 mg/ml) in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

### Description

Delphinidin-3-O-rutinoside is a glycosylated anthocyanin that has been found in *R. nigrum* and has antioxidant activity.<sup>1,2</sup> It inhibits loss of viability in isolated rat aortic smooth muscle cells (SMCs), but not MH1C1 hepatoma cells, induced by *tert*-butyl-hydroperoxide (TBHP) when used at a concentration of 100  $\mu M$ .<sup>1</sup> Delphinidin-3-O-rutinoside prevents TBHP-induced DNA damage, as well as inhibits TBHP-induced increases in malondialdehyde (MDA) levels, in SMCs. It displays a hydrogen peroxide-induced and pH-dependent chemiluminescence peak at pH 7.<sup>2</sup>

### References

1. Lazzé, M.C., Pizzala, R., Savio, M., *et al.* Anthocyanins protect against DNA damage induced by *tert*-butyl-hydroperoxide in rat smooth muscle and hepatoma cells. *Mutat. Res.* **535(1)**, 103-115 (2003).
2. Matsumoto, H., Nakamura, Y., Hirayama, M., *et al.* Antioxidant activity of black currant anthocyanin aglycons and their glycosides measured by chemiluminescence in a neutral pH region and in human plasma. *J. Agric. Food Chem.* **50(18)**, 5034-5037 (2002).

**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**  
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 06/19/2024

### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897  
[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM