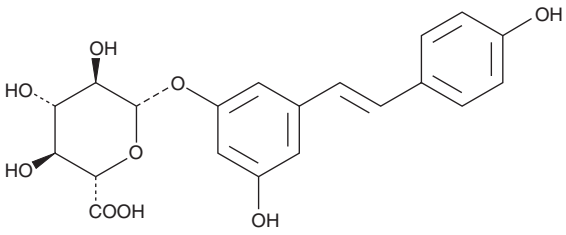
PRODUCT INFORMATION

trans-Resveratrol-3-O-β-D-Glucuronide

Item No. 13832

CAS Registry No.:	387372-17-0
Formal Name:	3-hydroxy-5-[(1E)-2-(4-hydroxyphenyl)ethenyl]phenyl-β-D-glucopyranosiduronic acid
Synonym:	Resveratrol 3-O-D-Glucuronide
MF:	$C_{20}H_{20}O_9$
FW:	404.4
Purity:	≥95%
UV/Vis.:	λ_{max}: 217, 307, 320 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

trans-Resveratrol-3-O-β-D-glucuronide is supplied as a crystalline solid. A stock solution may be made by dissolving the *trans*-resveratrol-3-O-β-D-glucuronide in the solvent of choice, which should be purged with an inert gas. *trans*-Resveratrol-3-O-β-D-glucuronide is soluble in organic solvents such as methanol and DMSO. The solubility of *trans*-resveratrol-3-O-β-D-glucuronide in these solvents is approximately 5 and 10 mg/ml, respectively.

Description

trans-Resveratrol-3-O-β-D-glucuronide is a stilbene that has been found in red wine and an active metabolite of *trans*-resveratrol (Item No. 70675), a polyphenol with diverse biological activities.[1] It is primarily produced from *trans*-resveratrol by the UDP-glucuronosyltransferase (UGT) isoform UGT1A1.[2] *trans*-Resveratrol-3-O-β-D-glucuronide binds to COX-1 (IC_{50} = 150 µM)[3] It reduces the proliferation of several intestinal cancer cell lines (IC_{50}s = 10-16.5 µM) and induces cell cycle arrest at the G_0/G_1 phase in SW480 intestinal cancer cells when used at a concentration of 30 µM.[4] *trans*-Resveratrol-3-O-β-D-glucuronide (200 µM) increases pyruvate production in livers isolated from rats in a model of arthritis induced by complete Freund's adjuvant (CFA)[5]

References

1. Potter, G.A., Patterson, L.H., Wanogho, E., *et al*. The cancer preventative agent resveratrol is converted to the anticancer agent piceatannol by the cytochrome P450 enzyme CYPIBI. *Br. J. Cancer* **86(5)**, 774-778 (2002).
2. Aumont, V., Krisa, S., Battaglia, E., *et al*. Regioselective and stereospecific glucuronidation of *trans*- and *cis*-resveratrol in human. *Arch. Biochem. Biophys*. **393(2)**, 281-289 (2001).
3. Calamini, B., Ratia, K., Malkowski, M.G., *et al*. Pleiotropic mechanisms facilitated by resveratrol and its metabolites. *Biochem. J*. **429(2)**, 273-282 (2012).
4. Polycarpou, E., Meira, L.B., Carrington, S., *et al*. Resveratrol 3-O-D-glucuronide and resveratrol 4'-O-D-glucuronide inhibit colon cancer cell growth: evidence for a role of A3 adenosine receptors, cyclin D1 depletion, and G1 cell cycle arrest. *Mol. Nutr. Food Res*. **57(10)**, 1708-1717 (2013).
5. Simões, M.S., Ames-Sibin, A.P., Lima, E.P., *et al*. Resveratrol biotransformation and actions on the liver metabolism of healthy and arthritic rats. *Life Sci*. **310**, 120991 (2022).

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