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SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

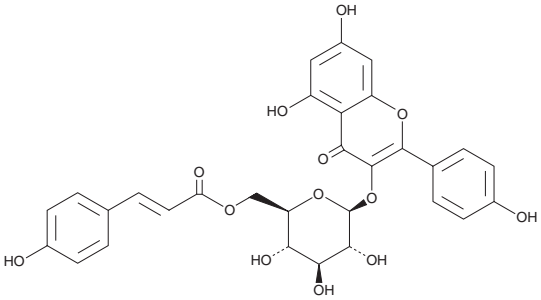
linkedin.com/company/szaboscandic

PRODUCT INFORMATION

Tiliroside

Item No. 34493

CAS Registry No.:	20316-62-5
Formal Name:	5,7-dihydroxy-2-(4-hydroxyphenyl)-3-[[6-O-[(2E)-3-(4-hydroxyphenyl)-1-oxo-2-propen-1-yl]-β-D-glucopyranosyl]oxy]-4H-1-benzopyran-4-one
Synonyms:	Kaempferol 3-O-β-D-Glucopyranoside-6-*p*-coumaril ester, Kaempferol 3-O-β-D-(6''-E-*p*-coumaroyl)-glucopyranoside
MF:	$C_{30}H_{26}O_{13}$
FW:	594.5
Purity:	≥98%
UV/Vis.:	λ_{max}: 268, 317 nm
Supplied as:	A solid
Storage:	-20°C
Stability:	≥2 years
Item Origin:	Plant/*Edgeworthia chrysantha*



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

Laboratory Procedures

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

Tiliroside is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, tiliroside should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Tiliroside has a solubility of approximately 0.14 mg/ml in a 1:6 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Tiliroside is a polyketide synthase-derived flavonoid glycoside that has been found in *Q. ilex* and has diverse biological activities.[1-5] It inhibits carbonic anhydrase VII (CAVII; K_i = 4.6 nM), but not CAI, CAII, CAIV, or CAXII (K_is = >10, >10, 5.46, and 0.134 µM, respectively), in a cell-free assay.[5] Tiliroside scavenges DPPH (Item No. 14805) and superoxide radicals (IC_{50}s = 12.8 and 42 µM, respectively) and is cytotoxic to Jurkat, HepG2, and COLO 205 cells (IC_{50}s = 11.6, 14.3, and 55.4 µM, respectively).[2] It reduces ear edema induced by phorbol 12-myristate 13-acetate (TPA; Item No. 10008014) with an ID_{50} value of 0.357 mg/ear.[3] Tiliroside (100 mg/kg) decreases triglyceride accumulation in the liver and skeletal muscle in high-fat diet-fed KKAy diabetic mice.[4]

References

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2. Rao, Y.K., Geethangili, M., Fang, S.-H., *et al.* Antioxidant and cytotoxic activities of naturally occurring phenolic and related compounds: a comparative study. *Food Chem. Toxicol.* **45(9)**, 1770-1776 (2007).
3. Sala, A., Recio, M.C., Schinella, G.R., *et al.* Assessment of the anti-inflammatory activity and free radical scavenger activity of tiliroside. *Eur. J. Pharmacol.* **461(1)**, 53-61 (2003).
4. Goto, T., Teraminami, A., Lee, J.-Y., *et al.* Tiliroside, a glycosidic flavonoid, ameliorates obesity-induced metabolic disorders via activation of adiponectin signaling followed by enhancement of fatty acid oxidation in liver and skeletal muscle in obese-diabetic mice. *J. Nutr. Biochem.* **23(7)**, 768-776 (2012).
5. Karioti, A., Ceruso, M., Carta, F., *et al.* New natural product carbonic anhydrase inhibitors incorporating phenol moieties. *Bioorg. Med. Chem.* **23(22)**, 7219-7225 (2015).

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