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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

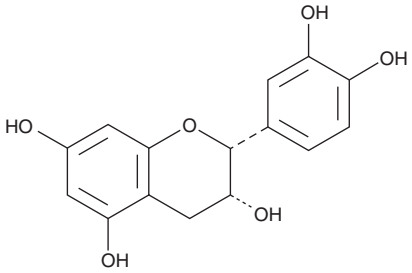
linkedin.com/company/szaboscandic

PRODUCT INFORMATION

(–)-Epicatechin

Item No. 11807

CAS Registry No.:	490-46-0
Formal Name:	2R-(3,4-dihydroxyphenyl)-3,4-dihydro-2H-1-benzopyran-3R,5,7-triol
Synonyms:	*epi*-Catechin, NSC 81161
MF:	$C_{15}H_{14}O_6$
FW:	290.3
Purity:	≥90%
UV/Vis.:	λ_{max}: 278 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥2 years
Item Origin:	Plant/*Acacia catechu*



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

Laboratory Procedures

(–)-Epicatechin is supplied as a crystalline solid. A stock solution may be made by dissolving the (–)-epicatechin in the solvent of choice, which should be purged with an inert gas. (–)-Epicatechin is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of (–)-epicatechin in these solvents is approximately 12.5 mg/ml.

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

Description

(–)-Epicatechin is a polyketide synthase-derived polyphenol flavonoid that has been found in *T. cacao* and has diverse biological activities.[1-5] It scavenges DPPH (Item No. 14805) radicals in a cell-free assay when used at a concentration of 5 µM.[2] (–)-Epicatechin inhibits COX-1 (IC_{50} = 3.2 µM).[3] It acts synergistically with epigallocatechin gallate (Item No. 70935) to induce apoptosis in, and reduce the proliferation of, PC-9 lung cancer cells when used at a concentration of 200 µM.[4] (–)-Epicatechin (80 mg/kg) reduces LPS-induced increases in plasma creatinine and urea levels in a rat model of renal inflammation.[5]

References

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2. Xu, J.Z., Yeung, S.Y.V., Chang, Q., *et al.* Comparison of antioxidant activity and bioavailability of tea epicatechins with their epimers. *Br. J. Nutr.* **91(6)**, 873-881 (2004).
3. Waffo-Téguo, P., Hawthorne, M.E., Cuendet, M., *et al.* Potential cancer-chemopreventive activities of wine stilbenoids and flavans extracted from grape (*Vitis vinifera*) cell cultures. *Nutr. Cancer* **40(2)**, 173-179 (2001).
4. Suganuma, M., Okabe, S., Kai, Y., *et al.* Synergistic effects of (–)-epigallocatechin gallate with (–)-epicatechin, sulindac, or tamoxifen on cancer-preventive activity in the human lung cancer cell line PC-9. *Cancer Res.* **59(1)**, 44-47 (1999).
5. Prince, P.D., Fischerman, L., Toblli, J.E., *et al.* LPS-induced renal inflammation is prevented by (–)-epicatechin in rats. *Redox Biol.* **11**, 342-349 (2017).

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