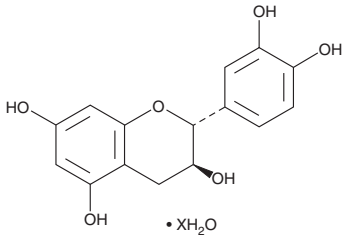
PRODUCT INFORMATION

(±)-Catechin (hydrate)

Item No. 29175

Formal Name:	(2R,3S)-*rel*-2-(3,4-dihydroxyphenyl)-3,4-dihydro-2H-1-benzopyran-3,5,7-triol, hydrate
MF:	$C_{15}H_{14}O_6 \bullet XH_2O$
FW:	290.3
Purity:	≥98%
UV/Vis.:	λ_{max}: 279 nm
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years
Item Origin:	Plant/Green tea



NOTE: Relative stereochemistry shown in chemical structure

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

Laboratory Procedures

(±)-Catechin (hydrate) is supplied as a solid. A stock solution may be made by dissolving the (±)-catechin (hydrate) in the solvent of choice, which should be purged with an inert gas. (±)-Catechin (hydrate) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of (±)-catechin (hydrate) in these solvents is approximately 5, 15, and 25 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of (±)-catechin (hydrate) can be prepared by directly dissolving the solid in aqueous buffers. The solubility of (±)-catechin (hydrate) in PBS, pH 7.2, is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

(±)-Catechin is a polyphenol flavonoid that has been found in *C. sinensis* leaves and has antioxidant and enzyme inhibitory activities.[1-3] It reduces iron- and ascorbate-induced lipid peroxidation of isolated bovine brain phospholipid liposomes with an IC_{50} value of 20 µM in a cell-free assay.[2] (±)-Catechin (20 µM) inhibits hepatitis C virus (HCV) RNA-dependent RNA polymerase (RdRp) by 17.7% in an enzyme assay.[3]

References

1. Li, Q., Li, J., Liu, S., *et al*. A comparative proteomic analysis of the buds and the young expanding leaves of the tea plant (*Camellia Sinensis* L.). *Comparative Study* **16(6)**, 14007-14038 (2015).
2. Scott, B.C., Butler, J., Halliwell, B., *et al*. Evaluation of the antioxidant actions of ferulic acid and catechins. *Free Radic. Res. Commun.* **19(4)**, 241-253 (1993).
3. Ahmed-Belkacem, A., Guichou, J.-F., Brillet, R., *et al.* Inhibition of RNA binding to hepatitis C virus RNA-dependent RNA polymerase: A new mechanism for antiviral intervention. *Nucleic Acids Res*. **42(14)**, 9399-9409 (2014).

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