

# PRODUCT INFORMATION



## (-)-Gallocatechin

Item No. 16944

CAS Registry No.: 3371-27-5

Formal Name: (2S,3R)-3,4-dihydro-2-(3,4,5-trihydroxyphenyl)-2H-1-benzopyran-3,5,7-triol

Synonym: (-)-GC

MF: C<sub>15</sub>H<sub>14</sub>O<sub>7</sub>

FW: 306.3

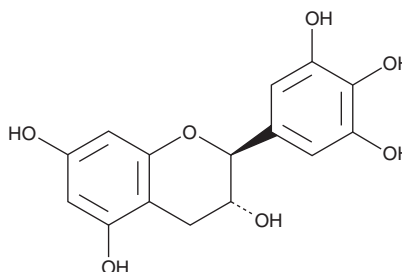
Purity: ≥98%

UV/Vis.: λ<sub>max</sub>: 210, 269 nm

Supplied as: A crystalline solid

Storage: -20°C

Stability: As supplied, 2 years from the QC date provided on the Certificate of Analysis, when stored properly



### Laboratory Procedures

(-)-Gallocatechin ((-)-GC) is supplied as a crystalline solid. A stock solution may be made by dissolving the (-)-GC in the solvent of choice. (-)-GC is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of (-)-GC 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 (-)-GC can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of (-)-GC in PBS, pH 7.2, is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

(-)-GC is an epimer of (-)-epigallocatechin ((-)-EGC; Item No. 11809). They are flavan-3-ols and members of the catechin family of polyphenolic antioxidants found in green tea and other plant extracts.<sup>1</sup> Both (-)-GC and (-)-EGC are potent antioxidants and significantly inhibit the proliferation of HCT116 and SW480 cancer cells.<sup>1-3</sup> (-)-GC also inhibits the aggregation of amyloid β peptide *in vitro* (IC<sub>50</sub> = 17.5 μM).<sup>4</sup> With increasing temperature, the steaming of green tea leaves results in the reduction of 2,3-*cis* isomers, like (-)-EGC, and an increase in 2,3-*trans* isomers, like (-)-GC.<sup>5,6</sup>

### References

1. Du, G.-J., Zhang, Z., Wen, X.-D., *et al. Nutrients* **4**(11), 1679-1691 (2012).
2. Xu, J.Z., Yeung, S.Y.V., Chang, Q., *et al. Br. J. Nutr.* **91**(6), 873-881 (2004).
3. Nomizu, K., Hashida, K., Makino, R., *et al. Biosci. Biotechnol. Biochem.* **72**(7), 1682-1689 (2008).
4. Xie, H., Wang, J.-R., Yau, L.-F., *et al. Molecules* **19**(4), 5119-5134 (2014).
5. Nomizu, K., Hashida, K., Makino, R., *et al. Biosci. Biotechnol. Biochem.* **72**(7), 1682-1689 (2008).
6. Timmel, M.A., Byl, J.A.W., and Osheroff, N. *Chem. Res. Toxicol.* **26**(4), 622-628 (2013).

#### 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.

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