

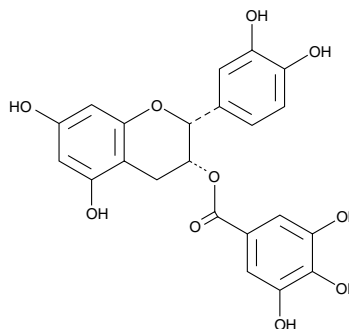
# Product Information



## (-)-Epicatechin Gallate

Item No. 11808

**CAS Registry No.:** 1257-08-5  
**Formal Name:** (2R,3R)-2-(3,4-dihydroxyphenyl)-3,4-dihydro-5,7-dihydroxy-2H-1-benzopyran-3-yl-ester-3,4,5-trihydroxybenzoic acid  
**Synonym:** ECG  
**MF:** C<sub>22</sub>H<sub>18</sub>O<sub>10</sub>  
**FW:** 442.4  
**Purity:** ≥98%  
**Stability:** ≥2 years at -20°C  
**Supplied as:** A crystalline solid  
**UV/Vis.:** λ<sub>max</sub>: 206, 279 nm



### Laboratory Procedures

For long term storage, we suggest that (-)-epicatechin gallate (ECG) be stored as supplied at -20°C. It should be stable for at least two years.

ECG is supplied as a crystalline solid. A stock solution may be made by dissolving the ECG in the solvent of choice. ECG is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of ECG in these solvents is approximately 1, 10, and 14 mg/ml, respectively.

ECG is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, ECG should first be dissolved in DMF and then diluted with the aqueous buffer of choice. ECG has a solubility of approximately 0.50 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

The catechins, including (-)-epicatechin (EC) and (-)-epigallocatechin gallate (EGCG) (Item No. 70935), are polyphenols which are abundant in green and black teas. ECG is a natural catechin with a single galloyl group. Like EGCG, it inhibits the growth of cancer cells and has anti-inflammatory effects.<sup>1-3</sup> The hydroxyl groups of ECG contribute to its potent antioxidant activity and facilitate the killing of methicillin-resistant strains of *S. aureus*.<sup>4-5</sup>

### References

1. Du, G.-J., Zhang, Z., Wen, X.-D., *et al.* Epigallocatechin gallate (EGCG) is the most effective cancer chemopreventive polyphenol in green tea. *Nutrients* **4**(11), 1679-1691 (2012).
2. Ravindranath, M.H., Ramasamy, V., Moon, S., *et al.* Differential growth suppression of human melanoma cells by tea (*Camellia sinensis*) epicatechins (ECG, EGC and EGCG). *Evid. Based Complement. Alternat. Med.* **6**(4), 523-530 (2009).
3. Kürbitz, C., Heise, D., Redmer, T., *et al.* Epicatechin gallate and catechin gallate are superior to epigallocatechin gallate in growth suppression and anti-inflammatory activities in pancreatic tumor cells. *Cancer Sci.* **102**(4), 728-734 (2011).
4. 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).
5. Anderson, J.C., McCarthy, R.A., Paulin, S., *et al.* Anti-staphylococcal activity and β-lactam resistance attenuating capacity of structural analogues of (-)-epicatechin gallate. *Bioorg. Med. Chem. Lett.* **21**(23), 6996-7000 (2011).

### Related Products

For a list of related products please visit: [www.caymanchem.com/catalog/11808](http://www.caymanchem.com/catalog/11808)

**WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

#### SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

Cayman Chemical Company makes **no warranty or guarantee** of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals hereof. Cayman **warrants only** to the original customer that the material will **meet our specifications at the time of delivery**.

Cayman will carry out its delivery obligations with due care and skill. Thus, in no event will Cayman have **any obligation or liability**, whether in tort (including negligence) or in contract, for any direct, indirect, incidental or consequential damages, even if Cayman is informed about their possible existence.

This limitation of liability does not apply in the case of intentional acts or negligence of Cayman, its directors or its employees.

Buyer's **exclusive remedy** and Cayman's sole liability hereunder shall be limited to a **refund** of the purchase price, or at Cayman's option, the **replacement**, at no cost to Buyer, of all material that does not meet our specifications.

Said refund or replacement is conditioned on Buyer giving written notice to Cayman within thirty (30) days after arrival of the material at its destination. Failure of Buyer to give said notice within thirty (30) days shall constitute a waiver by Buyer of all claims hereunder with respect to said material.

For further details, please refer to our **Warranty and Limitation of Remedy located on our website and in our catalog**.

Copyright Cayman Chemical Company, 06/17/2013

### Cayman Chemical

#### Mailing address

1180 E. Ellsworth Road  
Ann Arbor, MI  
48108 USA

#### Phone

(800) 364-9897  
(734) 971-3335

#### Fax

(734) 971-3640

#### E-Mail

[custserv@caymanchem.com](mailto:custserv@caymanchem.com)

#### Web

[www.caymanchem.com](http://www.caymanchem.com)