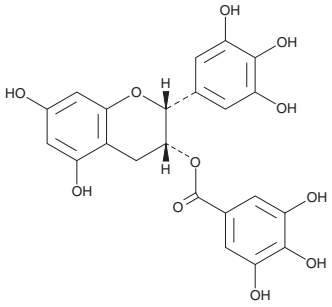
PRODUCT INFORMATION

(–)-Epigallocatechin Gallate

Item No. 70935

CAS Registry No.:	989-51-5
Formal Name:	3,4-dihydro-5,7-dihydroxy-2R-(3,4,5-trihydroxyphenyl)-2H-1-benzopyran-3R-yl-3,4,5-trihydroxy-benzoate
Synonym:	EGCG
MF:	$C_{22}H_{18}O_{11}$
FW:	458.4
Purity:	≥96%
UV/Vis.:	λ_{max}: 276 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years
Item Origin:	Plant/*Folium camelliae*



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

Laboratory Procedures

(–)-Epigallocatechin gallate (EGCG) is supplied as a crystalline solid. A stock solution may be made by dissolving the EGCG in an organic solvent purged with an inert gas. EGCG is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of EGCG in these solvents is approximately 20, 25, and 30 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 EGCG can be prepared by directly dissolving the crystalline compound in aqueous buffers. The solubility of EGCG in PBS (pH 7.2) is approximately 25 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

EGCG is a phenol that has been found in green and black tea plants and has diverse biological activities.[1-7] It is lytic against *T. cruzi* amastigotes, with a 50% bactericidal concentration (MBC_{50}) value of 0.53 pM.[1] EGCG decreases deoxyguanosine oxidation and tyrosine nitration (IC_{50}s = 0.25 and 0.11 mM, respectively) and inhibits macrophage-mediated LDL oxidation *in vitro*.[2,3] EGCG increases LDL receptor binding activity and lowers cholesterol levels in HepG2 cells via increased cholesterol efflux.[6] It inhibits heregulin-β1-induced activation of ErbB2 and ErbB3, as well as migration and invasion of MCF-7 breast cancer cells.[5] *In vivo*, EGCG reduces food intake and body weight, serum levels of insulin, leptin, testosterone, and growth hormone, and the size of the ventral prostate, testis, liver, and spleen in male Sprague Dawley, lean Zucker, and obese Zucker rats when administered at doses of 82, 81, and 92 mg/kg, respectively.[6] It also reduces increases in hepatic steatosis, inflammatory cell infiltration, and injury in a mouse model of non-alcoholic steatohepatitis (NASH) induced by a methionine- and choline-deficient diet when administered at doses of 50 and 100 mg/kg.[7]

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References

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