(-)-EPIGALLOCATECHIN GALLATE
Sigma Prod. No. E4143
Store at 2-8°C

CAS NUMBER: 989-51-5
SYNONYM: (2R,3R)-2-(3,4,5-Trihydroxyphenyl)-3,4-dihydro-1(2H)-benzopyran-3,5,7-triol 3-(3,4,5-trihydroxybenzoate); (-)-Epigallocatechin 3-O-gallate; EGCG

PHYSICAL DESCRIPTION:
Appearance: powder
Molecular formula: C_{22}H_{18}O_{11}
Molecular weight: 458.4
Melting point: 218°C

E\emph{M}(275 nm) = 11,500 (ethanol)
Optical rotation: -185° ± 2° (ethanol)

STORAGE / STABILITY AS SUPPLIED:

SOLUBILITY:

This is soluble in water at least to 5 mg/mL, giving a clear faint yellow solution. The stability of a solution of this product in water at a concentration of 0.3 mg/mL was tested. A sample left for 2.5 hours at room temperature was found to have significantly decreased in purity (from 99.6% to 81.7%, by HPLC). A sample left for 2 hours at 4°C was found to have decreased only slightly (from 99.5% to 99.3%).

GENERAL NOTES:

Epigallocatechin gallate (EGCG) is a polyphenolic compound found in green tea leaves. Studies with EGCG indicate it has antitumor promoting activity.

METHOD OF PREPARATION:

It is isolated by extracting the tea leaves with hot water, back-extracted with ethyl acetate. The EGCG is chromatographically isolated from the organic phase.
HPLC SYSTEM:

Column: YMC ODS-A 15 cm x 4.6 mm ID  Particle size 5 µm  
Mobile phase: acetonitrile:ethyl acetate:0.05% H₃PO₄ (12:2:86)  
Flow rate: 1.0 mL/min  
Solvent: Product dissolved at 0.3 mg/mL in water, 20 µL injected  
Detection at 280 nm  
Retention time for major peak ≈ 12 minutes  

Determination of this compound in plasma and urine by HPLC has been reported.

REFERENCES:

3. Supplier information.
4. Sigma quality control.

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