## Chemical Properties

<table>
<thead>
<tr>
<th><strong>Product Name:</strong></th>
<th>(-)-Epigallocatechin gallate (EGCG)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cas No.:</strong></td>
<td>989-51-5</td>
</tr>
<tr>
<td><strong>M.Wt.:</strong></td>
<td>458.37</td>
</tr>
<tr>
<td><strong>Formula:</strong></td>
<td>C22H18O11</td>
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<tr>
<td><strong>Synonyms:</strong></td>
<td>EGCG</td>
</tr>
<tr>
<td><strong>Chemical Name:</strong></td>
<td>[(2R,3R)-5,7-dihydroxy-2-(3,4,5-trihydroxyphenyl)-3,4-dihydro-2H-chromen-3-yl] 3,4,5-trihydroxybenzoate</td>
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<tr>
<td><strong>Canonical SMILES:</strong></td>
<td>C1C(C(OC2=CC(=CC(=C21)O)O)C3=CC(=C(C(=C3)O)O)O)OC(=O)C4=C(C=C(=C4)O)O)O</td>
</tr>
<tr>
<td><strong>Solubility:</strong></td>
<td>≥22.9mg/mL in DMSO</td>
</tr>
<tr>
<td><strong>Storage:</strong></td>
<td>Store at -20°C</td>
</tr>
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</table>

**General tips:**
For obtaining a higher solubility, please warm the tube at 37°C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

**Shopping Condition:**
Evaluation sample solution: ship with blue ice
All other available size: ship with RT, or blue ice upon request

## Biological Activity

**Targets:**
TGF-β / Smad Signaling

**Pathways:**
PKC

**Description:**
(-)-Epigallocatechin gallate (EGCG), the major catechin accounting for 59% of the total catechins in green tea, is a powerful antioxidant as well as an antiangiogenic and antitumor agent. EGCG has been studied for its role in the chemoprevention of a wide range of cancers, including liver, stomach, skin, lung, mammary gland and colon cancers. Study results show that EGCG is able to...
induce apoptosis, promote cell growth arrest and block carcinogenesis by affecting signal transduction pathways. Moreover, EGCG exhibits inhibition against a variety of viruses, including HCV, HIV-1, HBV, HSV-1, HSV-2, EBV, adenovirus, influenza virus and enterovirus, as well as several enzymes, including DNMTs, proteases and DHFR.

**Reference:**

**Protocol**

**Cell experiment:**

**Cell lines**
Human and rat neural progenitor cells (NPCs)

**Preparation method**
The solubility of this compound in DMSO is >10 mM. General tips for obtaining a higher concentration: Please warm the tube at 37℃ for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20℃ for several months.

**Reacting conditions**
0, 1, 2, 5 and 10 μM; 24 or 48 hrs

**Applications**
(-)-Epigallocatechin Gallate (EGCG) altered human and rat NPC development in vitro. EGCG affected migration distance, migration pattern and nuclear density of NPCs growing as neurospheres. EGCG exerted these functional impairments by binding to the extracellular matrix (ECM) glycoprotein laminin, preventing its binding to β1-integrin subunits, thereby prohibiting cell adhesion and resulting in altered glia alignment and decreased number of migrating young neurons.

**Animal experiment [3]:**

**Animal models**
A rat model of partial bladder outlet obstruction (pBOO)-induced bladder injury

**Dosage form**
4.5 mg/kg/day; i.p.; 2 days or 30 days

**Applications**
EGCG attenuated bladder inflammation caused by pBOO at the 48th hr. At the 30th day, EGCG attenuated endoplasmic reticulum (ER) stress-related apoptosis. In addition, EGCG improved bladder compliance, contractile frequency and inflammation at the 30th day.
Other notes

Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

Reference:

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most ApexBio products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.

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