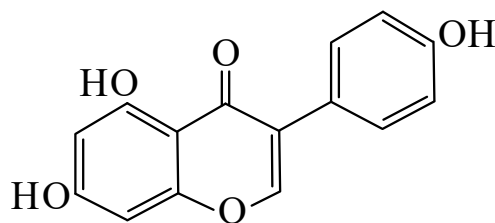




>>Entry Name: 4',5,7-Trihydroxyisoflavone

ENTRY UNDER REVIEW

Synonym(s): 5,7-Dihydroxy-3-(4-hydroxyphenyl)-4*H*-1-benzopyran-4-one, 9Cl. **Genistein**[‡]. Differenol A. Prunetol. Sophoricol. K 254I. Genisteol. NSC 36586



CAS Registry Number: 446-72-0

Related CAS Registry Numbers(s): 52796-14-2

Molecular Formula: C₁₅H₁₀O₅

Molecular Weight: 270.241

Accurate Mass: 270.052825

Percentage Composition: C 66.67%; H 3.73%; O 29.60%

Biological Source: V. widely distributed in the Leguminosae subf. Papilionoideae but also in *Podocarpus spicatus* (Podocarpaceae) and *Prunus* spp. (Rosaceae). Also prod. by microorganisms *Streptomyces vulgare* and other *Streptomyces* spp., *Aspergillus niger*, *Mycobacterium phlei* and *Micromonospora halophytica*. The major isoflavone in soy beans and isolated soy protein

Use/Importance: Weak estrogen. Shows insect antifeedant and weak antibacterial activity against *E. coli* and *Xanthomonas oryzae*. Experimentally used as protein kinase inhibitor against protein tyrosine kinases including those activated by epidermal growth factor (EGFR) and platelet derived growth factor (PDGF) receptors. Antioxidant. Claimed antineoplastic preventative activity

Physical Description: Prisms (EtOH aq.)

Melting Point: Mp 301-302° (dec.)

Calculated Log P Data: Log P 0.98 (calc)

UV: [neutral] λ_{max} 261 (ε 38500) (MeOH) (Derep)

Other Data: All isolations of isoflavonoids from microorganisms are considered dubious. Methylgenistein, Isogenistin and Methylisogenistin were all impure Genistein

Hazard & Toxicity: Exp. reprod. effects (large doses)

Fluka: 91955

Rare Chemicals Library: S25811-3

Sigma: G6776

>>Derivative: 4'-O-β-D-Glucopyranoside

Synonym(s): Genistein 4'-glucoside. **Sophoricoside**

CAS Registry Number: 152-95-4

Molecular Formula: C₂₁H₂₀O₁₀

Molecular Weight: 432.383

Accurate Mass: 432.10565

Percentage Composition: C 58.34%; H 4.66%; O 37.00%

Biological Source: Constit. of *Sophora japonica* and *Piptanthus nepalensis*

Physical Description: Prisms (EtOH)

Melting Point: Mp 297°

Optical Rotation: [α]_D²⁰ -46.7

>>Derivative: 5-O-β-D-Glucopyranoside

Synonym(s): Genistein 5-glucoside

CAS Registry Number: 128508-06-5

Molecular Formula: C₂₁H₂₀O₁₀

Molecular Weight: 432.383

Accurate Mass: 432.10565

Percentage Composition: C 58.34%; H 4.66%; O 37.00%

Biological Source: Isol. from *Prunus cerasus*