[ **Product Information** ]

**Name:** Esculin  
**Catalog No.:** CFN99114  
**Cas No.:** 531-75-9  
**Purity:** > 98%  
**M.F:** C_{15}H_{16}O_9  
**M.W:** 340.28  

**Physical Description:** White powder  
**Synonyms:** 7-Hydroxy-6-[[[(2S,3R,4S,5S,6R)-3,4,5-trihydroxy-6-(hydroxymethyl)-2-oxanyl]-oxy]-1-benzopyran-2-one.

[ **Intended Use** ]

1. Reference standards;  
2. Pharmacological research;  
3. Food and cosmetic research;  
4. Synthetic precursor compounds;  
5. Intermediates & Fine Chemicals;  
6. Ingredient in supplements, beverages;  
7. Aromatics;  
8. Others.

[ **Source** ]
The peel of *Aesculus hippocastanum* L.

**[Biological Activity or Inhibitors]**

Esculin, a plant coumarin compound that occur naturally in dietary plants or when supplemented in the diet probably inhibit the survival of *E. coli* O157 in the gut.\(^1\)

Esculin has protective effects on dopamine(DA)-induced cytotoxicity in human neuroblastoma SH-SY5Y cells, the effects may be ascribed to its anti-oxidative properties by reducing ROS level, and its anti-apoptotic effect via protecting mitochondrion membrane potential (DeltaPsi(m)), enhancing superoxide dismutaese (SOD) activity and reduced glutathione (GSH) levels, and regulating P53, Bax and Bcl-2 expression; indicates that esculin may provide a useful therapeutic strategy for the treatment of progressive neurodegenerative diseases such as Parkinson's disease (PD).\(^2\)

Esculin has a protective effect on lipopolysaccharide (LPS)-induced acute lung injury (ALI) in mice, it can inhibit the Toll-like receptor-2 (TLR2), Toll-like receptor-4 (TLR4), myeloid differentiation primary response gene-88 (MyD88), and nuclear factor-κB (NF-κB) p65 in LPS-induced ALI.\(^3\)

Esculin has an inhibitory effect on DMH-induced oxidative DNA damage and carcinogenesis in rat colons.\(^4\)

The traditional use of *Fraxinus ornus* stem bark extracts in the treatment of inflammatory disorders is at least partially due to its coumarin constituents, esculin.\(^5\)

The use of Esculin Glycerol Agar (EGA) solid medium shows that the screening method is suitable for exploring the glucosidase activity of native strains of *S. cerevisiae* and shows good correlation with its real impact on free aroma compounds in the final wine.\(^6\)

**[Solvent]**

Pyridine, DMSO, Ethanol, Methanol.

**[HPLC Method]**\(^7\)

Mobile phase: Acetonitrile : 0.1% Phosphoric acid H2O=12:88;
Flow rate: 1.0 ml/min;
Column temperature: 30 ℃;
The wave length of determination: 334 nm.

[ Storage ]
2-8℃, Protected from air and light, refrigerate or freeze.

[ References ]

[ Contact ]
Address: Email: info@chemfaces.com
S5-3 Building, No. 111, Dongfeng Rd.,
Wuhan Economic and Technological Development Zone,
Wuhan, Hubei 430056,
China
Tel: +86-27-84237783
Fax: +86-27-84254680
Web: www.chemfaces.com
Tech Support: service@chemfaces.com