

## Hellebrigenin

## Chemical Properties

CAS No. : 465-90-7

Formula: C<sub>24</sub>H<sub>32</sub>O<sub>6</sub>

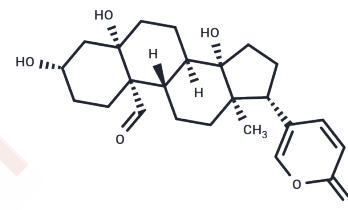
Molecular Weight: 416.51

Keep away from moisture, Keep away from direct sunlight, The compound is unstable in solution.

Storage: Please use soon

Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



## Biological Description

Description	Hellebrigenin, as a selective inhibitor of MAPK signaling pathways (ERK, p38, JNK) and XIAP, effectively suppresses Akt expression and phosphorylation. This compound activates endogenous apoptosis pathways (including mitochondrial membrane potential disruption, Caspase family activation, and PARP cleavage) while modulating apoptosis-related protein expression. Hellebrigenin also induces DNA double-strand breaks to activate the ATM pathway, inhibiting tumor cell proliferation and clonogenesis, primarily applied in research of oral squamous cell carcinoma and liver cancer.
Targets(IC50)	Apoptosis, ERK, Caspase, IAP, JNK, p38 MAPK, PARP
In vitro	<b>Methods:</b> Oral cancer SCC-1/47 cells and liver cancer HepG2 cells were treated with Hellebrigenin (2-8 nM, 24-72 h), and cell viability was detected by MTT assay. <b>Results:</b> Hellebrigenin inhibited the cell viability of oral cancer SCC-1/47 cells and liver cancer HepG2 cells in a dose- and time-dependent manner. <b>Methods:</b> Oral cancer SCC-1/47 cells were treated with Hellebrigenin (2-8 nM, 24 h), and the expression of related apoptosis proteins was detected by WB. <b>Results:</b> Hellebrigenin induced apoptosis in oral cancer SCC-1/47 cells and activated Caspase-3/8/9 and PARP cleavage, accompanied by upregulation of Bax/Bak and downregulation of Bcl-2/Bcl-xL, Cyclin A2/B1, and CDK4/6. [1]
In vivo	<b>Methods:</b> Hellebrigenin (6 mg/kg, intraperitoneal injection, three times a week for 4 weeks) was used to treat oral cancer SCC-1 cell xenograft model mice to study its effects on tumor growth and mouse body weight. <b>Methods:</b> Hellebrigenin significantly inhibited tumor growth in the oral cancer SCC-1 cell xenograft model of mice without affecting mouse body weight. [1]

### Preparing Stock Solutions

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	1mg	5mg	10mg
1 mM	2.4009 mL	12.0045 mL	24.009 mL
5 mM	0.4802 mL	2.4009 mL	4.8018 mL
10 mM	0.2401 mL	1.2005 mL	2.4009 mL
50 mM	0.048 mL	0.2401 mL	0.4802 mL

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Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

### Reference

Hsieh MJ, et al. Hellebrigenin induces oral cancer cell apoptosis by modulating MAPK signalling and XIAP expression. *J Cell Mol Med.* 2024 Jan;28(2):e18071.

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