

## Eurycomalactone

## Chemical Properties

CAS No. : 23062-24-0

Formula: C<sub>19</sub>H<sub>24</sub>O<sub>6</sub>

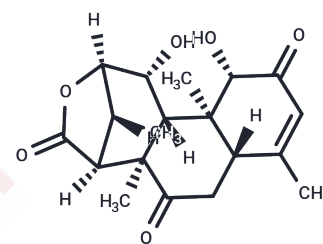
Molecular Weight: 348.39

Storage:

Keep away from moisture, Store at low temperature,  
Keep away from direct sunlight

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	Eurycomalactone is a natural product isolated from <i>Eurycoma longifolia</i> Jack., acts as a potent NF- $\kappa$ B inhibitor (IC <sub>50</sub> of 0.5 $\mu$ M). Eurycomalactone inhibits protein synthesis, depletes cyclin D1, but does not affect TNF $\alpha$ -induced degradation of I $\kappa$ B $\alpha$ or the phosphorylation of IKK $\alpha$ / $\beta$ and I $\kappa$ B $\alpha$ .
Targets(IC50)	Apoptosis, Anti-infection, Bcl-2 Family, NF- $\kappa$ B, Akt
In vitro	Eurycomalactone (ECL), an active quassinoid isolated from <i>Eurycoma longifolia</i> Jack, has been demonstrated to possess anticancer activity. ECL exhibited selective cytotoxicity against the NSCLC cells A549 and COR-L23 compared to the normal lung fibroblast. Clonogenic survival results indicated that ECL treatment prior to irradiation synergistically decreased the A549 and COR-L23 colony number. ECL treatment reduced the expression of cyclin B1 and CDK1/2 leading to induce cell cycle arrest at the radiosensitive G <sub>1</sub> /M phase. Moreover, ECL markedly delayed the repair of radiation-induced DNA double-strand breaks (DSBs). In A549 cells, pretreatment with ECL not only delayed the resolving of radiation-induced $\gamma$ -H2AX foci but also blocked the formation of 53BP1 foci at the DSB sites. In addition, ECL pretreatment attenuated the expression of DNA repair proteins Ku-80 and KDM4D in both NSCLC cells. Consequently, these effects led to an increase in apoptosis in irradiated cells. Thus, ECL radiosensitized the NSCLC cells to X-ray via G <sub>1</sub> /M arrest induction and delayed the repair of X-ray-induced DSBs. It has a great potential for ECL as an alternative safer radiosensitizer for increasing the RT efficiency against NSCLC[2].

## Solubility Information

Solubility	DMSO: 55 mg/mL (157.87 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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### Preparing Stock Solutions

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	1mg	5mg	10mg
1 mM	2.8703 mL	14.3517 mL	28.7035 mL
5 mM	0.5741 mL	2.8703 mL	5.7407 mL
10 mM	0.287 mL	1.4352 mL	2.8703 mL
50 mM	0.0574 mL	0.287 mL	0.5741 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

Cytotoxic activity of quassinoids from *Eurycoma longifolia*. *Nat Prod Commun.* 2010 Jul;5(7):1009-12.

Dukaew N , Konishi T , Chairatvit K , et al. Enhancement of Radiosensitivity by Eurycomalactone in Human NSCLC Cells through G2/M Cell Cycle Arrest and Delayed DNA Double-strand Break Repair[J]. *Oncology Research Featuring Preclinical and Clinical Cancer Therapeutics*, 2019.

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