



# SZABO SCANDIC

Part of Europa Biosite

## Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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### Lieferung & Zahlungsart

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### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

### SZABO-SCANDIC HandelsgmbH

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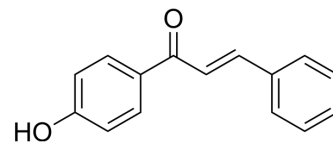
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## 4'-Hydroxychalcone

Cat. No.:	HY-N7056		
CAS No.:	2657-25-2		
Molecular Formula:	C <sub>15</sub> H <sub>12</sub> O <sub>2</sub>		
Molecular Weight:	224.25		
Target:	Proteasome; Oxidative Phosphorylation		
Pathway:	Metabolic Enzyme/Protease		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



### SOLVENT & SOLUBILITY

In Vitro	DMSO : 250 mg/mL (1114.83 mM; Need ultrasonic)				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	Preparing Stock Solutions	1 mM	4.4593 mL	22.2965 mL	44.5931 mL
		5 mM	0.8919 mL	4.4593 mL	8.9186 mL
10 mM		0.4459 mL	2.2297 mL	4.4593 mL	
Please refer to the solubility information to select the appropriate solvent.					
In Vivo	<ol style="list-style-type: none"> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 40% PEG300 &gt;&gt; 5% Tween-80 &gt;&gt; 45% saline Solubility: ≥ 2.08 mg/mL (9.28 mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.08 mg/mL (9.28 mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% corn oil Solubility: ≥ 2.08 mg/mL (9.28 mM); Clear solution</li> </ol>				

### BIOLOGICAL ACTIVITY

Description	4'-Hydroxychalcone is a chalcone isolated from licorice root, with hepatoprotective activity. 4'-Hydroxychalcone inhibits TNFα-induced NF-κB activation via proteasome inhibition. 4'-Hydroxychalcone induces a rapid potassium release from mitochondrial vesicles and causes deterioration of respiratory control and oxidative phosphorylation of isolated rat liver mitochondria <sup>[1][2][3]</sup> .
In Vitro	4'-Hydroxychalcone (20-40 μM ; 2 hours) inhibits TNFα-induced (20 ng/mL; 6 hours) NF-κB pathway activation in a dose-dependent manner <sup>[3]</sup> .

4'-Hydroxychalcone (0.1-25  $\mu\text{M}$  ; 8 hours) inhibits proteasome activity in a dose-dependent manner but has no effect on IKK activity<sup>[3]</sup>.  
4'-Hydroxychalcone inhibits TNF $\alpha$ -dependent degradation of I $\kappa$ B $\alpha$  and subsequently prevents p50/p65 nuclear translocation leading to 4'-Hydroxychalcone-inhibited expression of NF- $\kappa$ B target genes<sup>[3]</sup>.  
4'-Hydroxychalcone affects cancer cell viability but has no significant effect on non-transformed cell viability<sup>[3]</sup>.  
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

#### Cell Viability Assay<sup>[3]</sup>

Cell Line:	K562 cells, Jurkat cells, U937 cells, PBMCs
Concentration:	5 $\mu\text{M}$ , 10 $\mu\text{M}$ , 20 $\mu\text{M}$ , 24 $\mu\text{M}$ , 28 $\mu\text{M}$ , 32 $\mu\text{M}$ , 40 $\mu\text{M}$ , 60 $\mu\text{M}$
Incubation Time:	24 hours
Result:	Affected cancer cell viability but has no significant effect on non-transformed cell viability.

#### Western Blot Analysis<sup>[3]</sup>

Cell Line:	Jurkat cells
Concentration:	60 $\mu\text{M}$ (followed by TNF $\alpha$ 20 ng/mL )
Incubation Time:	2 hours
Result:	Inhibited TNF $\alpha$ -dependent degradation of I $\kappa$ B $\alpha$ and prevents p50/p65 nuclear translocation.

#### In Vivo

4'-Hydroxychalcone has hepatoprotective activity against Acetaminophen induced hepatotoxicity in mice<sup>[2]</sup>.  
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male albino mice(5-30 g) <sup>[2]</sup>
Dosage:	25 mg/kg, 50 mg/kg, 100 mg/kg
Administration:	Oral administration, 12h intervals, 4 doses
Result:	Significantly reduced the mortality rate induced by Acetaminophen (1 g/kg).

## REFERENCES

- [1]. Inoue B, et al. The effects of echinatin and its related compounds on the mitochondrial energy transfer reaction. J Toxicol Sci. 1982 Nov;7(4):245-54.
- [2]. Ali Reza, et al. Hepatoprotective activity of phloretin and hydroxychalcones against Acetaminophen Induced hepatotoxicity in mice. Iranian Journal of Pharmaceutical Sciences. 2011 Jan; 7(2).
- [3]. Orlikova B, et al. The aromatic ketone 4'-hydroxychalcone inhibits TNF $\alpha$ -induced NF- $\kappa$ B activation via proteasome inhibition. Biochem Pharmacol. 2011 Sep 15;82(6):620-31.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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