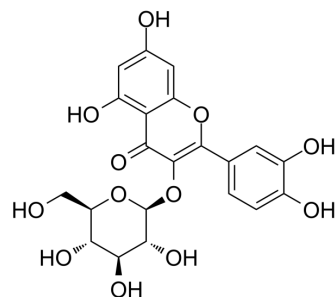


## Isoquercetin

<b>Cat. No.:</b>	HY-N1445
<b>CAS No.:</b>	482-35-9
<b>Molecular Formula:</b>	C <sub>21</sub> H <sub>20</sub> O <sub>12</sub>
<b>Molecular Weight:</b>	464.38
<b>Target:</b>	NF-κB; NO Synthase
<b>Pathway:</b>	NF-κB; Immunology/Inflammation
<b>Storage:</b>	4°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



### SOLVENT & SOLUBILITY

<b>In Vitro</b>	DMSO : 19.23 mg/mL (41.41 mM; Need ultrasonic)					
	<b>Preparing Stock Solutions</b>	<b>Solvent</b>	<b>Mass</b>	<b>1 mg</b>	<b>5 mg</b>	<b>10 mg</b>
		<b>Concentration</b>				
		<b>1 mM</b>		2.1534 mL	10.7670 mL	21.5341 mL
		<b>5 mM</b>		0.4307 mL	2.1534 mL	4.3068 mL
	<b>10 mM</b>		0.2153 mL	1.0767 mL	2.1534 mL	
Please refer to the solubility information to select the appropriate solvent.						
<b>In Vivo</b>	1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 1.92 mg/mL (4.13 mM); Clear solution					
	2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 1.92 mg/mL (4.13 mM); Clear solution					
	3. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 1.92 mg/mL (4.13 mM); Clear solution					

### BIOLOGICAL ACTIVITY

<b>Description</b>	Isoquercetin (Quercetin 3-glucoside) is a naturally occurring polyphenol that has antioxidant, anti-proliferative, and anti-inflammatory properties. Isoquercetin alleviates ethanol-induced hepatotoxicity, oxidative stress, and inflammatory responses via the Nrf2/ARE antioxidant signaling pathway <sup>[1]</sup> . Isoquercetin regulates the expression of nitric oxide synthase 2 (NO2) via modulating the nuclear factor-κB (NF-κB) transcription regulation system. Isoquercetin has high bioavailability and low toxicity, is a promising candidate agent to prevent birth defects in diabetic pregnancies <sup>[2]</sup> .
<b>In Vitro</b>	Isoquercetin (Quercetin 3-glucoside; 5-20 μM; 24 hours) substantially reduces ethanol-induced cytotoxicity, protects hepatic cells against ethanol-stimulated liver injury <sup>[1]</sup> . Isoquercetin (10 μM; pre-treat 1 hour) dramatically downregulates the levels of ethanol-induced iNOS protein expression in HepG2 cells <sup>[1]</sup> .

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

#### Cell Viability Assay<sup>[1]</sup>

Cell Line:	HepG2 cells
Concentration:	5 $\mu$ M, 10 $\mu$ M, 20 $\mu$ M
Incubation Time:	24 hours
Result:	Caused significantly enhanced cell viability as positive controls.

#### Western Blot Analysis<sup>[1]</sup>

Cell Line:	HepG2 cells
Concentration:	10 $\mu$ M
Incubation Time:	1 hour
Result:	Decreased ethanol-induced iNOS protein expression.

## REFERENCES

[1]. Lee S, et al. Relative protective activities of quercetin, quercetin-3-glucoside, and rutin in alcohol-induced liver injury. J Food Biochem. 2019 Aug 5:e13002.

[2]. Tan C, et al. Modulation of nuclear factor- $\kappa$ B signaling and reduction of neural tube defects by quercetin-3-glucoside in embryos of diabetic mice. Am J Obstet Gynecol. 2018 Aug;219(2):197.e1-197.e8.

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

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