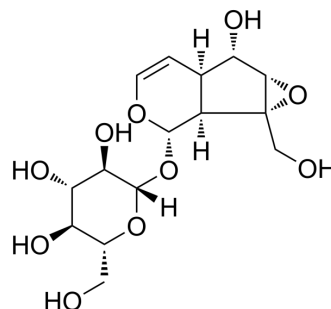


## Catalpol

<b>Cat. No.:</b>	HY-N0820		
<b>CAS No.:</b>	2415-24-9		
<b>Molecular Formula:</b>	C <sub>15</sub> H <sub>22</sub> O <sub>10</sub>		
<b>Molecular Weight:</b>	362.33		
<b>Target:</b>	HBV		
<b>Pathway:</b>	Anti-infection		
<b>Storage:</b>	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



### SOLVENT & SOLUBILITY

#### In Vitro

DMSO : ≥ 30 mg/mL (82.80 mM)  
 H<sub>2</sub>O : 7.14 mg/mL (19.71 mM); ultrasonic and warming and heat to 60°C  
 \* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	2.7599 mL	13.7996 mL	27.5992 mL
	5 mM	0.5520 mL	2.7599 mL	5.5198 mL
	10 mM	0.2760 mL	1.3800 mL	2.7599 mL

Please refer to the solubility information to select the appropriate solvent.

#### In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
Solubility: ≥ 2.08 mg/mL (5.74 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
Solubility: ≥ 2.08 mg/mL (5.74 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
Solubility: ≥ 2.08 mg/mL (5.74 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

Catalpol (Catalpinoside), an iridoid glycoside found in *Rehmannia glutinosa*. Catalpol has neuroprotective, hypoglycemic, anti-inflammatory, anti-cancer, anti-spasmodic, anti-oxidant effects and anti-HBV effects<sup>[1][2][3]</sup>.

#### In Vitro

Catalpol (0.1 μg/mL; for 3 days) can induce neuronal differentiation in PC12 cells through activation of the intracellular signal transduction pathway, and promote neurite length<sup>[2]</sup>.

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

#### In Vivo

Catalpol (25-100?mg/kg; intraperitoneal injection; once) treatment clearly reduces blood urea nitrogen, serum creatinine levels and the expression of KIM-1 in renal ischemia/reperfusion-injury (IRI) mice. Catalpol markedly reduces the expression of PI3K, Akt and eNOS levels, and suppresses the TNF- $\alpha$ , IL-1 $\beta$ , IL-6 and IL-10 activities<sup>[1]</sup>.

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

Animal Model:	C57BL/6 mice treated with renal ischemia/reperfusion surgery <sup>[1]</sup>
Dosage:	25 mg/kg, 50 mg/kg and 100 mg/kg
Administration:	Intraperitoneal injection; once
Result:	Clearly reduced blood urea nitrogen, serum creatinine levels and the expression of KIM-1 in renal IRI mice.

## CUSTOMER VALIDATION

- Pharmacol Res. 2020 May;155:104751.
- Acta Pharmacol Sin. 2021 Nov 18.
- Phytomedicine. 2020 Nov;78:153300.
- Microvasc Res. 2021 Dec 14;104302.
- SSRN. 2021 Oct.

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## REFERENCES

[1]. Jili Zhu, et al. Catalpol protects mice against renal ischemia/reperfusion injury via suppressing PI3K/Akt-eNOS signaling and inflammation. Int J Clin Exp Med. 2015 Feb 15;8(2):2038-44.

[2]. M Yamazaki, et al. Neuritogenic effect of natural iridoid compounds on PC12h cells and its possible relation to signaling protein kinases. Biol Pharm Bull. 1996 Jun;19(6):791-5.

[3]. R Mehrotra, et al. In vitro studies on the effect of certain natural products against hepatitis B virus. Indian J Med Res. 1990 Apr;92:133-8.

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

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