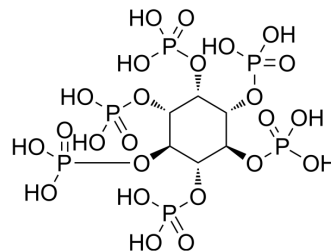


Phytic acid

Cat. No.:	HY-N0814
CAS No.:	83-86-3
Molecular Formula:	C ₆ H ₁₈ O ₂₄ P ₆
Molecular Weight:	660.04
Target:	Xanthine Oxidase; Endogenous Metabolite
Pathway:	Metabolic Enzyme/Protease
Storage:	Solution, -20°C, 2 years



SOLVENT & SOLUBILITY

In Vitro	DMSO : 100 mg/mL (151.51 mM; Need ultrasonic)
	H ₂ O : ≥ 30 mg/mL (45.45 mM)
	* "≥" means soluble, but saturation unknown.

BIOLOGICAL ACTIVITY

Description	Phytic acid (Inositol hexaphosphate) is a phosphorus storage compound of seeds and cereal grains. Phytic acid is known as a food inhibitor, which has a strong ability to chelate multivalent metal ions, specially zinc, calcium, iron and as with protein residue. Phytic acid inhibits the enzymatic superoxide source xanthine oxidase (XO), and has antioxidative, neuroprotective, anti-inflammatory effects ^{[1][2][3][4]} .
IC ₅₀ & Target	Xanthine oxidase ^[3]
In Vitro	Phytic acid (myo-Inositol) inhibits the formation of uric acid from xanthine with an IC ₅₀ of about 30 mM. The generation of the superoxide is greatly affected by phytic acid; the IC ₅₀ is about 6 mM, indicating that the superoxide generating domain of XO is more sensitive to phytic acid ^[3] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Animal Administration ^[4]	Mice: MPTP (20 mg/kg/day, i.p.) is administrated for 5 days and animals are killed at 7 days later. Phytic acid (30 mg/kg/day, i.p.) or normalsaline is injected 4 days before MPTP administration and con-tinued until mice are killed, reaching a total treatment period of 16 days ^[4] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
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CUSTOMER VALIDATION

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- SSRN. 2022 Jan 26.

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REFERENCES

- [1]. Zhou JR, et al. Phytic acid in health and disease. Crit Rev Food Sci Nutr. 1995 Nov;35(6):495-508.
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- [3]. Muraoka S, et al. Inhibition of xanthine oxidase by phytic acid and its antioxidative action. Life Sci. 2004 Feb 13;74(13):1691-700.
- [4]. Lv Y, et al. Phytic acid attenuates inflammatory responses and the levels of NF- κ B and p-ERK in MPTP-induced Parkinson's disease model of mice. Neurosci Lett. 2015 Jun 15;597:132-6.
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Caution: Product has not been fully validated for medical applications. For research use only.

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