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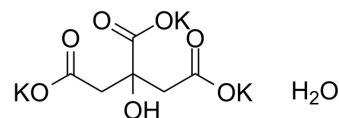
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Citric acid tripotassium hydrate

Cat. No.:	HY-W009156
CAS No.:	6100-05-6
Molecular Formula:	C ₆ H ₇ K ₃ O ₈
Molecular Weight:	324.41
Target:	ATP Citrate Lyase; HIF/HIF Prolyl-Hydroxylase; Bacterial; Endogenous Metabolite
Pathway:	Metabolic Enzyme/Protease; Anti-infection
Storage:	4°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro	H ₂ O : 120 mg/mL (369.90 mM; Need ultrasonic)																									
	DMSO : < 1 mg/mL (insoluble or slightly soluble)																									
	<table border="1"> <thead> <tr> <th rowspan="2">Solvent</th> <th rowspan="2">Mass</th> <th colspan="3">Concentration</th> </tr> <tr> <th>1 mg</th> <th>5 mg</th> <th>10 mg</th> </tr> </thead> <tbody> <tr> <td rowspan="4">Preparing Stock Solutions</td> <td>1 mM</td> <td>3.0825 mL</td> <td>15.4126 mL</td> <td>30.8252 mL</td> </tr> <tr> <td>5 mM</td> <td>0.6165 mL</td> <td>3.0825 mL</td> <td>6.1650 mL</td> </tr> <tr> <td>10 mM</td> <td>0.3083 mL</td> <td>1.5413 mL</td> <td>3.0825 mL</td> </tr> <tr> <td colspan="4">Please refer to the solubility information to select the appropriate solvent.</td> </tr> </tbody> </table>	Solvent	Mass	Concentration			1 mg	5 mg	10 mg	Preparing Stock Solutions	1 mM	3.0825 mL	15.4126 mL	30.8252 mL	5 mM	0.6165 mL	3.0825 mL	6.1650 mL	10 mM	0.3083 mL	1.5413 mL	3.0825 mL	Please refer to the solubility information to select the appropriate solvent.			
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In Vivo	1. Add each solvent one by one: PBS Solubility: 100 mg/mL (308.25 mM); Clear solution; Need ultrasonic																									

BIOLOGICAL ACTIVITY

Description	Hydroxycitric acid tripotassium hydrate (Potassium citrate monohydrate) is the major active ingredient of Garcinia cambogia. Hydroxycitric acid tripotassium hydrate competitively inhibits ATP citrate lyase with weight loss benefits. Hydroxycitric acid tripotassium hydrate effective inhibits stones formation and also inhibits HIF, and has antioxidation, anti-inflammation and anti-tumor effects ^{[1][2][3][4]} .
IC₅₀ & Target	Human Endogenous Metabolite
In Vitro	Hydroxycitric acid shows an HIF inhibitory effect compared with the control group in ARPE19 cells and 661W cells. Hydroxycitric acid can downregulate Hif1a and the downstream genes in ARPE19 cells and 661W cells. Hydroxycitric acid suppresses HIF-1α protein expression increased by CoCl ₂ administration in ARPE19 cells and 661W cells ^[2] . In chicken hepatocytes, Hydroxycitric acid decreases the accumulation of lipid droplets and accelerated energy metabolism. Hydroxycitric acid protects the cells from ER stress by increasing the antioxidant status and mitochondrial functions ^[2] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Hydroxycitric acid (100-200 mg/kg) treatment could reduce markers of renal impairment (Blood Urea Nitrogen and serum creatinine). There is significantly less calcium oxalate crystal deposition in mice (male C57BL/6J mice) treated with Hydroxycitric acid. Hydroxycitric acid attenuates the oxidative stress induced by calcium oxalate crystallization. Hydroxycitric acid has inhibitory effects on calcium oxalate-induced inflammatory cytokines, such as MCP-1, IL-1 β , and IL-6. In addition, Hydroxycitric acid alleviates tubular injury and apoptosis caused by calcium oxalate crystals^[1]. The administration of Hydroxycitric acid can suppress body weight gain and fat accumulation in animals^[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Food Chem. 2022: 134807.
- New J Chem. 03 Aug 2022.

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REFERENCES

- [1]. Liu X, et al. Hydroxycitric acid inhibits renal calcium oxalate deposition by reducing oxidative stress and inflammation. *Curr Mol Med*. 2020 Jan 3.
- [2]. Ibuki M, et al. Therapeutic Effect of Garcinia cambogia Extract and Hydroxycitric Acid Inhibiting Hypoxia-Inducible Factor in a Murine Model of Age-Related Macular Degeneration. *Int J Mol Sci*. 2019 Oct 11;20(20). pii: E5049.
- [3]. Han S, et al. Hydroxycitric Acid Tripotassium Inhibits Calcium Oxalate Crystal Formation in the Drosophila Melanogaster Model of Hyperoxaluria. *Med Sci Monit*. 2019 May 17;25:3662-3667.
- [4]. Heymsfield SB, et al. Garcinia cambogia (hydroxycitric acid) as a potential antiobesity agent: a randomized controlled trial. *JAMA*. 1998 Nov 11;280(18):1596-600.

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

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