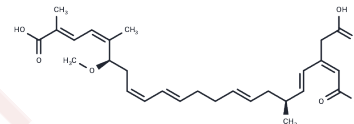


## Bongkrelic acid

## Chemical Properties

CAS No. :	11076-19-0
Formula:	C <sub>28</sub> H <sub>38</sub> O <sub>7</sub>
Molecular Weight:	486.60
Storage:	Store at low temperature Powder: -20°C for 3 years   In solvent: -80°C for 1 year <small>Actual storage temperature shall be subject to the COA.</small>



## Biological Description

Description	Bongkrelic acid (ammonium salt) is a natural product, a mitochondrial adenine nucleotide translocase (ANT) inhibitor that induces neutrophil extracellular trap formation through signaling pathways such as p38 and ERK, and is used for research on mitochondrial function and immune response.
Targets(IC50)	ATPase,ERK,P2X Receptor,p38 MAPK,PAD
In vitro	<p><b>Methods:</b> Rat liver mitochondria and bovine heart submitochondrial particles were used, and [<sup>3</sup>H]ADP uptake was measured. Bongkrelic acid was incubated at concentrations of 1–10 μM for 15–20 seconds.</p> <p><b>Results:</b> At pH 6.0, 1–5 μM Bongkrelic acid significantly inhibited ADP uptake (inhibition rate &gt;80%); at pH 7.4, 5–10 μM showed approximately 30% inhibition, confirming its pH-dependent inhibition of the ADP/ATP carrier.[1]</p> <p><b>Methods:</b> HepG2 cells were used, and oxygen consumption rate (OCR) was measured by Seahorse extracellular flux analyzer. Bongkrelic acid concentration was 20 μM, with 1-hour pre-incubation.</p> <p><b>Results:</b> Bongkrelic acid alone significantly inhibited OCR; addition before Oligomycin blocked its induced proton uncoupling, but addition after uncoupling occurred had no reversing effect.[2]</p>
In vivo	<p><b>Methods:</b> Zebrafish embryos were exposed to Bongkrelic acid (0.01, 0.05, 0.1, 1 mg/L, in water) at 4 hours post-fertilization for 96 hours to assess developmental toxicity.</p> <p><b>Results:</b> Mortality rates reached 79% in the 0.1 mg/L group and 100% in the 1 mg/L group; exposure to ≥0.05 mg/L resulted in decreased cardiac function and neurobehavioral abnormalities; exposure to ≥0.1 mg/L caused morphological malformations, liver damage, acidosis, and ionoregulatory disorders. [3]</p>

## Solubility Information

Solubility	DMSO: 80 mg/mL (164.41 mM),Sonication is recommended. H <sub>2</sub> O: 1 mg/mL (2.06 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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### Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.0551 mL	10.2754 mL	20.5508 mL
5 mM	0.411 mL	2.0551 mL	4.1102 mL
10 mM	0.2055 mL	1.0275 mL	2.0551 mL
50 mM	0.0411 mL	0.2055 mL	0.411 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

### Reference

Takegawa, Kazuto et al. KH-17, a simplified derivative of bongkreikic acid, weakly inhibits the mitochondrial ADP/ATP carrier from both sides of the inner mitochondrial membrane. *Chemical biology & drug design* vol. 101,4 (2023): 865-872.

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Hearne, Abby et al. Oligomycin-induced proton uncoupling. *Toxicology in vitro : an international journal published in association with BIBRA* vol. 67 (2020): 104907.

Horng, Jiun-Lin et al. Assessing the toxicity of bongkreikic acid in zebrafish embryos. *Comparative biochemistry and physiology. Toxicology & pharmacology : CBP* vol. 296 (2025): 110235.

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