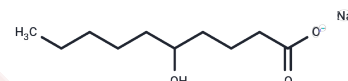


## 5-Hydroxydecanoate sodium

### Chemical Properties

CAS No. : 71186-53-3  
 Formula: C<sub>10</sub>H<sub>19</sub>NaO<sub>3</sub>  
 Molecular Weight: 210.25  
 Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year  
*Actual storage temperature shall be subject to the COA.*



### Biological Description

Description	5-Hydroxydecanoate sodium is a selective ATP-sensitive K <sup>+</sup> (KATP) channel blocker with an IC <sub>50</sub> of approximately 30 μM and a substrate for mitochondrial outer membrane acyl-CoA synthetase, possessing antioxidant properties.
Targets(IC <sub>50</sub> )	Potassium Channel
In vitro	The treatment of 5-Hydroxydecanoate sodium abolished the beneficial effects of penehyclidine hydrochloride (PHC) preconditioning in anoxia/reoxygenation (A/R)-induced injury in H9c2 cells. 5-Hydroxydecanoate sodium blocked the inhibitory effect of PHC on Ca <sup>2+</sup> overload and ROS production and promoted the release of Cyt-C from mitochondria into cytoplasm. 5-Hydroxydecanoate sodium attenuated the anti-apoptotic effect of PHC[1].
In vivo	The treatment of 5-Hydroxydecanoate sodium (100 μM) abolished the effects of ischemic preconditioning (IPC) on the contractile recovery, but 5-Hydroxydecanoate sodium did not affect its effect on the contracture, lactate production, glycogenolysis and viable tissue in rats[2].

### Solubility Information

Solubility	DMSO: 3.6 mg/mL (17.12 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 1 mg/mL (4.76 mM),Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

### Preparing Stock Solutions

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	1mg	5mg	10mg
1 mM	4.7562 mL	23.7812 mL	47.5624 mL
5 mM	0.9512 mL	4.7562 mL	9.5125 mL
10 mM	0.4756 mL	2.3781 mL	4.7562 mL
50 mM	0.0951 mL	0.4756 mL	0.9512 mL

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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

Xiantao Li, et al. 5-Hydroxydecanoate and coenzyme A are inhibitors of native sarcolemmal KATP channels in inside-out patches. *Biochim Biophys Acta*. 2010 Mar;1800(3):385-91.

Tang G X, Li M L, Zhou C, et al. Mitochondrial RelA empowers mtDNA G-quadruplex formation for hypoxia adaptation in cancer cells. *Cell Chemical Biology*. 2024

M G Marina Prendes, et al. Effects of 5-hydroxydecanoate and ischemic preconditioning on the ischemic-reperfused heart of fed and fasted rats. *J Physiol Biochem*. 2005 Sep;61(3):447-56.

Congna Zi, et al. Penehyclidine hydrochloride protects against anoxia/reoxygenation injury in cardiomyocytes through ATP-sensitive potassium channels, and the Akt/GSK-3 $\beta$  and Akt/mTOR signaling pathways. *Cell Biol Int*. 2020 Jun;44(6):1353-1362.

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