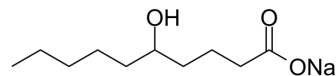


## 5-Hydroxydecanoate sodium

|                    |  |
|--------------------|--|
| Cat. No.:          | HY-136615  |
| CAS No.:           | 71186-53-3   |
| Molecular Formula: | C <sub>10</sub> H <sub>19</sub> NaO <sub>3</sub>   |
| Molecular Weight:  | 210.25   |
| Target:            | Potassium Channel  |
| Pathway:           | Membrane Transporter/Ion Channel   |
| Storage:           | 4°C, sealed storage, away from moisture<br>* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture) |



### SOLVENT & SOLUBILITY

|   |   |                          |           |           |            |            |
|---|---|--------------------------|-----------|-----------|------------|------------|
| In Vitro  | DMSO : 12.5 mg/mL (59.45 mM; Need ultrasonic)   |                          |           |           |            |            |
|   | H <sub>2</sub> O : 10 mg/mL (47.56 mM; Need ultrasonic)   |                          |           |           |            |            |
|   | Preparing Stock Solutions   | Solvent<br>Concentration | Mass      | 1 mg      | 5 mg       | 10 mg      |
|   |   |                          | 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  |            |
| Please refer to the solubility information to select the appropriate solvent. |   |                          |           |           |            |            |
| In Vivo   | 1. Add each solvent one by one: PBS<br>Solubility: 6.25 mg/mL (29.73 mM); Clear solution; Need ultrasonic   |                          |           |           |            |            |
|   | 2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline<br>Solubility: ≥ 1.25 mg/mL (5.95 mM); Clear solution         |                          |           |           |            |            |
|   | 3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)<br>Solubility: 1.25 mg/mL (5.95 mM); Suspended solution; Need ultrasonic |                          |           |           |            |            |
|   | 4. Add each solvent one by one: 10% DMSO >> 90% corn oil<br>Solubility: ≥ 1.25 mg/mL (5.95 mM); Clear solution                                    |                          |           |           |            |            |

### BIOLOGICAL ACTIVITY

|                           |  |
|---------------------------|--|
| Description               | 5-Hydroxydecanoate sodium is a selective ATP-sensitive K <sup>+</sup> (K <sub>ATP</sub> ) channel blocker (IC <sub>50</sub> of ~30 μM). 5-Hydroxydecanoate sodium is a substrate for mitochondrial outer membrane acyl-CoA synthetase and has antioxidant activity <sup>[1][2]</sup> . |
| IC <sub>50</sub> & Target | IC50: ~30 μM (K <sub>ATP</sub> )   |
| In Vitro                  | 5-Hydroxydecanoate (5-HD) treatment abolishes the beneficial effects of penehyclidine hydrochloride (PHC) preconditioning  |

in anoxia/reoxygenation (A/R) induced injury in H9c2 cells. 5-Hydroxydecanoate blocks the inhibitory effect of PHC on  $Ca^{2+}$  overload and ROS production. 5-Hydroxydecanoate promotes the release of Cyt-C from mitochondria into cytoplasm. 5-Hydroxydecanoate attenuates the anti-apoptotic effect of PHC. PHC treatment shows remarkably decreases levels of Bax and cleaved caspase-3, and increases levels of Bcl-2. 5-Hydroxydecanoate pretreatment reverses the effects of PHC on their expression levels. 5-Hydroxydecanoate blocks the effects of PHC on  $K_{ATP}$  channels<sup>[1]</sup>.  
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

#### In Vivo

5-Hydroxydecanoate (100  $\mu$ M) treatment abolishes the effects of ischemic preconditioning (IPC) on the contractile recovery and does not affect its effect on the contracture, lactate production, glycogenolysis and viable tissue in rats<sup>[3]</sup>.  
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## REFERENCES

- [1]. 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.
- [2]. Xiantao Li, et al. 5-Hydroxydecanoate and coenzyme A are inhibitors of native sarcolemmal  $K_{ATP}$  channels in inside-out patches. *Biochim Biophys Acta.* 2010 Mar;1800(3):385-91.
- [3]. 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.

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: [tech@MedChemExpress.com](mailto:tech@MedChemExpress.com)

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA