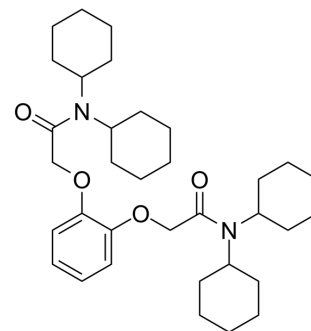


## Sodium ionophore III

<b>Cat. No.:</b>	HY-101109		
<b>CAS No.:</b>	81686-22-8		
<b>Molecular Formula:</b>	C <sub>34</sub> H <sub>52</sub> N <sub>2</sub> O <sub>4</sub>		
<b>Molecular Weight:</b>	552.79		
<b>Target:</b>	Sodium Channel		
<b>Pathway:</b>	Membrane Transporter/Ion Channel		
<b>Storage:</b>	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	2 years
		-20°C	1 year



### SOLVENT & SOLUBILITY

#### In Vitro

DMSO : 1 mg/mL (1.81 mM; Need ultrasonic)  
 H<sub>2</sub>O : < 0.1 mg/mL (insoluble)

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	1.8090 mL	9.0450 mL	18.0901 mL
	5 mM	---	---	---
	10 mM	---	---	---

Please refer to the solubility information to select the appropriate solvent.

#### In Vivo

1. Add each solvent one by one: corn oil  
 Solubility: 2 mg/mL (3.62 mM); Suspended solution; Need ultrasonic

### BIOLOGICAL ACTIVITY

#### Description

Sodium ionophore III (ETH2120) is a Na<sup>+</sup> ionophore suitable for the assay of sodium activity in blood, plasma, serum. etc.

#### In Vitro

Preincubation of the cells with the Na<sup>+</sup> ionophore sodium ionophore III not only stimulated caffeine reduction, but completely abolished ATP synthesis. Addition of sodium ionophore III to cells in the steady state of caffeine reduction immediately dissipated the intracellular ATP level<sup>[1]</sup>. Lactate-sulfate grown cells are insensitive to the Na<sup>+</sup> ionophore, ETH2120<sup>[2]</sup>. Sodium ionophore III ligand is a very effective receptor for the Eu<sup>3+</sup> and Am<sup>3+</sup> cations and can be considered as a potential extraction agent for nuclear waste treatment<sup>[3]</sup>.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

### REFERENCES

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- [1]. Imkamp F, et al. Chemiosmotic energy conservation with Na(+) as the coupling ion during hydrogen-dependent caffeate reduction by *Acetobacterium woodii*. *J Bacteriol.* 2002 Apr;184(7):1947-51.
- [2]. Wang L, et al. The role of Rnf in ion gradient formation in *Desulfovibrio alaskensis*. *PeerJ.* 2016 Apr 14;4:e1919.
- [3]. Makrlík, E, et al. Sodium Ionophore III as Very Effective Receptor for Trivalent Europium and Americium. *J Solution Chem* (2016) 45: 463.
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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