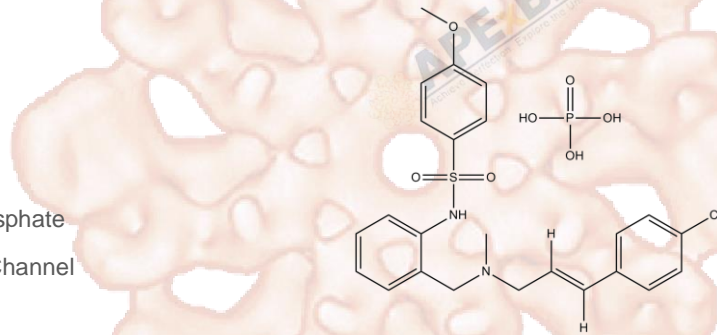


# Product Data Sheet

## KN-92 phosphate

<b>Cat. No.:</b>	A3531
<b>CAS No.:</b>	1135280-28-2
<b>Formula:</b>	C <sub>24</sub> H <sub>28</sub> ClN <sub>2</sub> O <sub>7</sub> PS
<b>M.Wt:</b>	554.98
<b>Synonyms:</b>	KN 92 phosphate;KN92 phosphate
<b>Target:</b>	Membrane Transporter/Ion Channel
<b>Pathway:</b>	P2X purinergic receptor
<b>Storage:</b>	Store at -20°C



## Solvent & Solubility

≥25 mg/mL in DMSO; insoluble in H<sub>2</sub>O; ≥43.1 mg/mL in EtOH with gentle warming

In Vitro

Preparing Stock Solutions	Solvent	Mass		
		1mg	5mg	10mg
	<b>Concentration</b>			
	<b>1 mM</b>	1.8019 mL	9.0093 mL	18.0187 mL
	<b>5 mM</b>	0.3604 mL	1.8019 mL	3.6037 mL
	<b>10 mM</b>	0.1802 mL	0.9009 mL	1.8019 mL

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

## Biological Activity

Shortsummary

CaMKII inhibitor

IC<sub>50</sub> & Target

In Vitro

### Cell Viability Assay

Cell Line:	rabbit hypertrophic cardiac myocytes
Preparation method:	The solubility of this compound in DMSO is >25mg/mL. General tips for obtaining a higher concentration: Please warm the tube at 37°C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.
Reacting conditions:	0.5 μmol/L and 1 μmol/L

	Applications:	<p>KN-92 is the inactive analog of KN-93. Under the conditions of low potassium, low magnesium Tyrode's solution perfusion, and slow frequency electrical stimulation, the incidence of early after-depolarizations (EADs) was 0/12, 11/12, 10/12, and 5/12 in sham group, left ventricular hypertrophy (LVH) group, KN-92 group (0.5 <math>\mu\text{mol/L}</math>), and KN-93 group (0.5 <math>\mu\text{mol/L}</math>), respectively. When the drug concentration was increased to 1 <math>\mu\text{mol/L}</math> in KN-92 group and KN-93 group, the incidence of EADs was 10/12 and 2/12, respectively. When the drug concentration was 0.5 <math>\mu\text{mol/L}</math> in KN-92 and KN-93 groups, the peak <math>I_{\text{Ca, L}}</math> at 0 mV was decreased by (9.4<math>\pm</math>2.8)% and (10.5<math>\pm</math>3.0)%, respectively. When the drug concentration was increased to 1 <math>\mu\text{mol/L}</math>, the peak <math>I_{\text{Ca, L}}</math> values were lowered by (13.4<math>\pm</math>3.7)% and (40<math>\pm</math>4.9)%, respectively.</p>
In Vivo	<b>Animal experiment</b>	
	Animal models:	Spontaneously hypertensive rats
	Dosage form:	1 $\mu\text{mol/L}$
	Applications:	<p>In spontaneously hypertensive rats, action potential duration alternans (APD-ALT) was evoked at significantly lower pacing rate, KN-93 (1 <math>\mu\text{mol/L}</math>), but not its inactive analog, KN-92 (1 <math>\mu\text{mol/L}</math>), completely reversed these changes in APD-ALT. The magnitude of APD-ALT was also significantly greater in SHR than WKY and was completely normalized by KN-93. KN-93 also abolished ventricular fibrillation (VF) induced by rapid pacing in SHR.</p>
Other notes:	<p>Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.</p>	

## Product Citations

See more customer validations on [www.apexbt.com](http://www.apexbt.com).

## References

- [1]. Ke J1, Chen F, Zhang C, et al. Effects of calmodulin-dependent protein kinase II inhibitor, KN-93, on electrophysiological features of rabbit hypertrophic cardiac myocytes. J Huazhong Univ Sci Technol Med Sci. 2012 Aug;32(4):485-9.
- [2]. Mitsuyama H1, Yokoshiki H2, Watanabe M1, et al. Ca<sup>2+</sup>/calmodulin-dependent protein kinase II increases the susceptibility to the arrhythmogenic action potential alternans in spontaneously hypertensive rats. Am J Physiol Heart Circ Physiol. 2014 Jul 15;307(2):H199-206.

## Caution

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**FOR RESEARCH PURPOSES ONLY.**

**NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

Specific storage and handling information for each product is indicated on the product datasheet. Most APExBIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.

**APExBIO Technology**

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