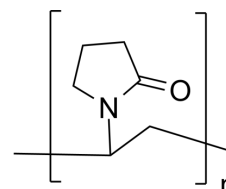


## Povidone iodine

Cat. No.:	HY-B2234		
CAS No.:	25655-41-8		
Target:	Bacterial		
Pathway:	Anti-infection		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	2 years
		-20°C	1 year



x I<sub>2</sub>

n:x = 10:1

### SOLVENT & SOLUBILITY

<b>In Vitro</b>	DMSO : 15 mg/mL (Need ultrasonic) H <sub>2</sub> O : 2.4 mg/mL (Need ultrasonic)
<b>In Vivo</b>	<ol style="list-style-type: none"> <li>Add each solvent one by one: PBS Solubility: 100 mg/mL (Infinity mM); Clear solution; Need ultrasonic</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 40% PEG300 &gt;&gt; 5% Tween-80 &gt;&gt; 45% saline Solubility: ≥ 1.5 mg/mL (Infinity mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% (20% SBE-β-CD in saline) Solubility: ≥ 1.5 mg/mL (Infinity mM); Clear solution</li> </ol>

### BIOLOGICAL ACTIVITY

<b>Description</b>	Povidone iodine (iodopovidone) displays excellent antibacterial activity which can against MRSA and MSSA strains with MICs of 31.25 mg/L and 7.82 mg/L, respectively.
<b>In Vitro</b>	MIC values of Povidone iodine (iodopovidone) (PVP-I) are 31.25 mg/L and 7.82 mg/L, respectively. Treatment of the cells with Povidone iodine (PVP-I) at a dilution of 1:32 causes a sharp reduction in cell viability by 90-95% on all testing cell lines <sup>[1]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
<b>In Vivo</b>	The Dp+Povidone iodine (iodopovidone) (PVP-I) group has the second highest average score from day 13 to the end of the experimental period. The Dp+Povidone iodine and Dp+Et-OH groups also show a significantly increase in eosinophil count compare with the control group (p<0.05 and p<0.001, respectively). However, the eosinophil count does not significantly differ among the Dp+Povidone iodine (PVP-I), Dp+CHG, and Dp+vehicle groups <sup>[2]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

### PROTOCOL

<b>Cell Assay</b> <sup>[1]</sup>	Each bacterial isolate is washed twice with phosphate-buffered saline (PBS, pH 7.2), centrifuged for 10 min at 1932xg at
----------------------------------	--

20°C, and suspended in 3 mL of nutrient broth, adjusted to a turbidity equivalent of 0.5 McFarland standard. The bacterial suspension is diluted 1:100 with MHB to a final inoculum of 10<sup>6</sup> colony-forming units (cfu)/mL. For each bacterial strain, two rows of a 96-well microtitre plate are filled with the final bacterial inoculum (50 µL per well) and 50 µL of each serial dilution of ILαD. The procedure is repeated for the Povidone iodine (PVP-I) serial dilutions<sup>[1]</sup>.

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

#### Animal Administration <sup>[2]</sup>

The mice are divided into 6 groups as follows: 1) saline+vehicle (control group), 2) Dp+vehicle, 3) Dp+BZK, 4) Dp+Povidone iodine (PVP-I), 5) Dp+Et-OH, and 6) Dp+CHG. Animals in the experimental groups are exposed to the allergen through the subcutaneous injection of 5 µg of Dp dissolving in 10 µL of saline in the ventral side of the right ear 2 to 3 days a week (a total of 8 times) under anesthesia with 4% halothane. Animals in the control group are not sensitized, receiving a subcutaneous injection of 10 µL of saline in the ventral side of the right ear. Animals receive an application of antiseptic agent are exposed to the allergen and treated with 0.2% (w/v) benzalkonium chloride (Dp+BZK), 10% (w/v) povidone-iodine (Dp+PVP-I), 80% (v/v) ethanol (Dp+Et-OH) or 0.5% (v/v) chlorhexidine gluconate (Dp+CHG). These agents are applied a total of 15 times during the experimental period. The BZK, Povidone iodine (PVP-I), Et-OH, and CHG are dissolved in 25 µL of injection water and applied gently to the dorsal side of the right ear using a micropipette with a fine plastic tip. The animals in the Dp+vehicle and control groups receive 25 µL of injection water. All animals are sacrificed on the last day of the experiment (day 18)<sup>[2]</sup>.

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

## REFERENCES

[1]. Zisi AP, et al. Iodine-lithium-alpha-dextrin (ILαD) against *Staphylococcus aureus* skin infections: a comparative study of in-vitro bactericidal activity and cytotoxicity between ILαD and povidone-iodine. *J Hosp Infect.* 2017 Jul 20. pii: S0195-6701(17)30395-X.

[2]. Kaori Sadakane, et al. Effect of the Hand Antiseptic Agents Benzalkonium Chloride, Povidone-Iodine, Ethanol, and Chlorhexidine Gluconate on Atopic Dermatitis in NC/Nga Mice. *Int J Med Sci.* 2015; 12(2): 116–125.

**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

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