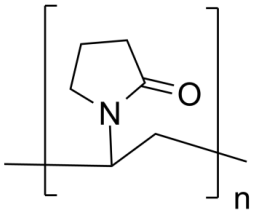
Data Sheet

Product Name:	Povidone iodine
Cat. No.:	CS-7815
CAS No.:	25655-41-8
Target:	Bacterial
Pathway:	Anti-infection
Solubility:	H2O : 2.4 mg/mL (Need ultrasonic); DMSO : 15 mg/mL (Need ultrasonic)



X I_2

n:x = 10:1

BIOLOGICAL ACTIVITY:

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. **In Vitro:** 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[1]. **In Vivo:** 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[2].

PROTOCOL (Extracted from published papers and Only for reference)

Cell Assay: [1] 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 10^6 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[1]. **Animal Administration:** [2]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)[2].

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.

CAIndexNames:

2-Pyrrolidinone, 1-ethenyl-, homopolymer, compd. with iodine

SMILES:

O=C1N(C(C)CC)CCC1.I[F,Cl,Br,I]I.[n].[n:x].[=].[10:1]

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