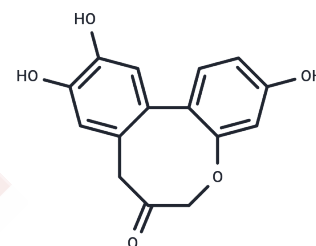


## Protosappanin A

### Chemical Properties

CAS No. :	102036-28-2
Formula:	C <sub>15</sub> H <sub>12</sub> O <sub>5</sub>
Molecular Weight:	272.25
Storage:	Powder: -20°C for 3 years   In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.



### Biological Description

Description	Protosappanin A (PTA) has anti-oxidative/nitrative activities on brain immune and neuroinflammation through regulation of CD14/TLR4-dependent IKK/ÎºB/NF-ÎºB inflammation signal pathway; it exerts anti-neuroinflammatory effect by inhibiting JAK2-STAT3 pathway in lipopolysaccharide-induced BV2 microglia. Protosappanin A induces immunosuppression of rats heart transplantation targeting T cells in grafts via NF-kappaB pathway. Protosappanin A and protosappanin B have antimicrobial activity, they show both alone activities and resistance reversal effects of amikacin and gentamicin against MRSA. Protosappanin A shows strong effect against HIV-1 IN with an IC50 value of 12.6 µM.
Targets(IC50)	NF-κB,HIV Protease,NO Synthase,STAT,COX,IL Receptor,Interleukin,κB/IKK,JAK,NADPH-oxidase,ROS,TLR,TNF
In vitro	Protosappanin A (PsA) and Protosappanin B (PsB) were identified from Sappan Lignum extracts. They showed activity against both <i>S. aureus</i> and MRSA with MIC or MIC50 at 64 (PsA) and 128 (PsB) mg/L alone. When they were used in combination with antibiotics, they showed the best synergy with amikacin and gentamicin with MIC50 (mg/L) of amikacin reduced more significantly from 32 to four (with PsA) and eight (with PsB), and the fractional inhibitory concentration index (FICI) ranged between 0.078 and 0.500 (FICI50 = 0.375). Moreover, the resistance of MRSA towards amikacin and gentamicin could be reversed by the Clinical and Laboratory Standards Institute criteria. The combined bactericidal mode could as well be synergy. PsA and PsB showed very low cytotoxicity in comparison with their promising activity against MRSA[1].

### Solubility Information

Solubility	DMSO: 225 mg/mL (826.45 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 5 mg/mL (18.37 mM),Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

### Preparing Stock Solutions

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	1mg	5mg	10mg
1 mM	3.6731 mL	18.3655 mL	36.7309 mL
5 mM	0.7346 mL	3.6731 mL	7.3462 mL
10 mM	0.3673 mL	1.8365 mL	3.6731 mL
50 mM	0.0735 mL	0.3673 mL	0.7346 mL

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Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

### Reference

Antimicrobial activity and synergy of antibiotics with two biphenyl compounds, protosappanins A and B from Sappan Lignum against methicillin-resistant *Staphylococcus aureus* strains. *J Pharm Pharmacol.* 2015 Oct;67(10): 1439-47.

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