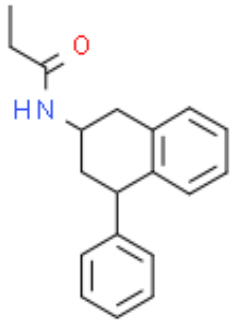
Product Data Sheet

Cas No.:	134865-74-0	Cat. No:	PC11112
Product Name:	4-P-PDOT		
Product synonym:	-		
Chemical name:	4-P-PDOT		
MF:	C19H21NO	FW:	279.37614
Purity:	≥98%	Batch No.:	-
Storage:			
Structural formula:			
λmax：	-	Formulation：	-
Solubility :			
SMILES :	CCC(NC1CC2=CC=CC=C2C(C3=CC=CC=C3)C1)=O		
InChI Code:	-		
InChI Key:			
WARNING This product is not for human or veterinary use.			

Product Description

褪黑激素受体拮抗剂,4-P-PDOT 是一种有效的，选择性的和亲和性的褪黑激素受体 (MT2) 拮抗剂。4-P-PDOT 对 MT2 的选择性是 MT1 的 300 倍以上。4-P-PDOT 可显着抵消褪黑激素介导的抗氧化作用 (GSH/GSSG比，ERK 磷酸化，Nrf2 核易位，Nrf2 DNA 结合活性)。

生物活性	4-P-PDOT is a potent, selective and affinity **Melatonin receptor (MT2)** antagonist. 4-P-PDOT is >300-fold more selective for **MT2** than MT1. 4-P-PDOT significantly counteracts Melatonin-mediated antioxidant effects (GSH/GSSG ratio, phospho-ERK, Nrf2 nuclear translocation, Nrf2 DNA-binding activity).
IC50 & Target[1][2]	MT2

<table>
<tr><td>体外研究(In Vitro)</td><td>
In CHO-mt1 cells the amidotetraline 4-P-PDOT (10 mM) has no effect on forskolin-stimulated cyclic AMP levels, either alone, or in the presence of Melatonin. In contrast, in CHO-MT2 cells, 4-P-PDOT is an agonist, producing a concentration-dependent inhibition of forskolin stimulated cyclic AMP, with a pEC_{50} value of 8.72 and intrinsic activity of 0.86.

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

Cell Viability Assay
<table>
<tr><td>Cell Line:</td><td>HT-29 and HeLa cells.</td></tr>
<tr><td>Concentration:</td><td>50 μM</td></tr>
<tr><td>Incubation Time:</td><td>30 min</td></tr>
<tr><td>Result:</td><td>Produced a negligible effect on cell viability induced by melatonin.</td></tr>
</table>
</td></tr>
<tr><td>体内研究(In Vivo)</td><td>
4-P-PDOT (0.5-1.0 mg/kg; intravenous injection; klotho mutant mice) treatment significantly reverses antioxidant effects mediated by Melatonin. And significantly reverses the changes in the levels of these GSH-related parameters. 4-P-PDOT treatment significantly reverses the memory function of Melatonin-treated klotho mutant mice. 4-P-PDOT also counteracts Melatonin-mediated attenuation in response to the decreases in phospho-ERK expression, Nrf2 nuclear translocation, Nrf2 DNA-binding activity, and GCL mRNA expression in the hippocampi of klotho mutant mice.

Medlife has not independently confirmed the accuracy of these methods. They are for reference only.
<table>
<tr><td>Animal Model:</td><td>Klotho mutant mice treatment with Melatonin</td></tr>
<tr><td>Dosage:</td><td>0.5 mg/kg or 1.0 mg/kg</td></tr>
<tr><td>Administration:</td><td>Intravenous injection</td></tr>
<tr><td>Result:</td><td>Significantly reversed antioxidant effects mediated by Melatonin. Significantly reversed the changes in the leve</td></tr>
</table>
</td></tr>
<tr><td>包装储存</td><td>
<table>
<tr><td>Powder</td><td>-20°C</td><td>3 years</td></tr>
<tr><td>In solvent</td><td>-80°C</td><td>6 months</td></tr>
<tr><td></td><td>-20°C</td><td>1 month</td></tr>
</table>
</td></tr>
</table>

溶解度数据

体外研究:

DMSO : 41.67 mg/mL (149.15 mM; Need ultrasonic)

配制储备溶液	溶剂体积 / 质量 / 浓度	1 mg	5 mg	10 mg
	1 mM	3.5794 mL	17.8968 mL	35.7935 mL
	5 mM	0.7159 mL	3.5794 mL	7.1587 mL
	10 mM	0.3579 mL	1.7897 mL	3.5794 mL

* 产品不同，其溶解度不同。建议根据产品选择合适的溶剂配制储备溶液；配成溶液后，**建议分装保存，避免反复冻融造成的产品失效**。

储备液的保存方式和期限：-80°C, 6 months; -20°C, 1 month。-80°C 储存时，建议在 6 个月内使用，-20°C 储存时，建议在 1 个月内使用。

体内研究:

建议根据您的实验动物和给药方式选择适当的溶解方案。以下溶解方案都建议先按照 **体外研究** 方式配制澄清的储备液，再依次添加助溶剂：

——为保证实验结果的可靠性，**澄清的储备液可以根据储存条件，适当保存**；体内实验的工作液，**建议您现用现配，当天使用**； 以下溶剂前显示的百分比是指**该溶剂在您配制终溶液中的体积占比**；如在配制过程中出现沉淀、析出现象，可以通过**加热和/或超声的方式助溶**

1. 建议依照次序添加每种溶剂： 10% DMSO 90% (20% SBE-β-CD in saline)

   Solubility: ≥ 4.17 mg/mL (14.93 mM); Clear solution

   此方案可获得 ≥ 4.17 mg/mL (14.93 mM，饱和度未知) 的澄清溶液。

   以 1 mL 工作液为例，取 100 μL 41.7 mg/mL 的澄清 DMSO 储备液加到 900 μL 20% 的 SBE-β-CD 生理盐水水溶液中，混合均匀。

   将 2 g 磺丁基醚 β-环糊精加入 5 mL 生理盐水中，再用生理盐水定容至 10 mL，完全溶解，澄清透明

2. 建议依照次序添加每种溶剂： 10% DMSO 90% corn oil

   Solubility: ≥ 4.17 mg/mL (14.93 mM); Clear solution

   此方案可获得 ≥ 4.17 mg/mL (14.93 mM，饱和度未知) 的澄清溶液，此方案不适用于实验周期在半个月以上的实验。

   以 1 mL 工作液为例，取 100 μL 41.7 mg/mL 的澄清 DMSO 储备液加到 900 μL玉米油中，混合均匀。

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