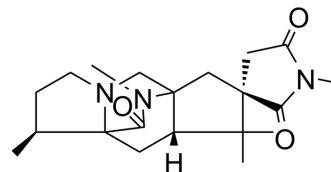


## (rel)-Asperparaline A

<b>Cat. No.:</b>	HY-124874
<b>CAS No.:</b>	195966-93-9
<b>Molecular Formula:</b>	C <sub>20</sub> H <sub>29</sub> N <sub>3</sub> O <sub>3</sub>
<b>Molecular Weight:</b>	359.46
<b>Target:</b>	nAChR
<b>Pathway:</b>	Membrane Transporter/Ion Channel; Neuronal Signaling
<b>Storage:</b>	Please store the product under the recommended conditions in the Certificate of Analysis.



Rotation (-)

### BIOLOGICAL ACTIVITY

<b>Description</b>	(rel)-Asperparaline A ((rel)-Aspergillimide), an anthelmintic metabolite, is isolated from okara that has been fermented with <i>Aspergillus japonicus</i> JV-23. (rel)-Asperparaline A is also a potent and selective antagonist of nAChR. (rel)-Asperparaline A exhibits paralytic activity in silk worms <sup>[1][2]</sup> .
<b>In Vitro</b>	Asperparaline A (1 μM; 1 min) markedly and reversibly blocks the acetylcholine (ACh; 10 μM)-induced current in the silkworm larval neurons <sup>[2]</sup> . Asperparaline A (1-1000 nM; 1 min) differentially blocks the peak and slowly desensitizing currents, with IC <sub>50</sub> s of 20.2 and 39.6 nM, respectively <sup>[2]</sup> . Asperparaline A (10 μM; 1 min) reduces the peak current amplitude of the ACh (100 μM)-induced response of α3β4 nAChR by 33.4%, while barely influencing the amplitudes of the responses to ACh of the α4β2 and α7 nAChRs in <i>X. laevis</i> oocytes <sup>[2]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
<b>In Vivo</b>	Asperparaline A (10 μg/g; p.o.) exhibits paralysis against silk worms within 1 h and lasts for 7 to 10 h <sup>[1]</sup> . Asperparaline A (3 μg/g; injection with a micro-syringe) exhibits paralysis activity against silk worms within 20 min and lasts for 4 to 5 h <sup>[1]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

### REFERENCES

- [1]. Hayashi H, et, al. New paralytic alkaloids, asperparalines A, B and C, from *Aspergillus japonicus* JV-23. *Biosci Biotechnol Biochem.* 2000 Jan;64(1):111-5.
- [2]. Hirata K, et, al. A fungal metabolite asperparaline a strongly and selectively blocks insect nicotinic acetylcholine receptors: the first report on the mode of action. *PLoS One.* 2011 Apr 1;6(4):e18354.

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**Caution: Product has not been fully validated for medical applications. For research use only.**

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