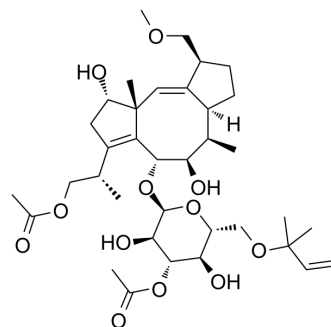


## Fusicocin

<b>Cat. No.:</b>	HY-122815		
<b>CAS No.:</b>	20108-30-9		
<b>Molecular Formula:</b>	C <sub>36</sub> H <sub>56</sub> O <sub>12</sub>		
<b>Molecular Weight:</b>	680.82		
<b>Target:</b>	Apoptosis		
<b>Pathway:</b>	Apoptosis		
<b>Storage:</b>	Powder	-20°C	3 years
	In solvent	-80°C	6 months
		-20°C	1 month



### BIOLOGICAL ACTIVITY

#### Description

Fusicocin (Fusicocin A), a fungal pytoxin, is a stabilizer of specific 14-3-3 protein-protein interactions. Fusicocin stabilizes H<sup>+</sup>-ATPase/14-3-3 complex in plants, maintaining the enzyme in activated state. Fusicocin also stabilizes 14-3-3 protein interactions with binding partners containing a C-terminal 14-3-3 recognition motif (a mode 3 motif), such as ERα, GPIbα, TASK3, CTFR, and p53. Fusicocin induces apoptosis in cancer cells and has anticancer activity<sup>[1][2][3][4]</sup>.

#### In Vitro

Fusicocin (Fusicocin A) stabilizes a complex between 14-3-3 and the stress response regulator GCN1, inducing GCN1 turnover and neurite outgrowth (EC<sub>50</sub>=29 mM)<sup>[3]</sup>. Fusicocin A activates the plasma membrane H<sup>+</sup>-ATPase by stabilizing its binding to 14-3-3 proteins, which results in water loss and the wilting of infected plants. Fusicocin A decreases the proliferation and migration of human GBM cell lines in vitro, including several cell lines that exhibit varying degrees of resistance to pro-apoptotic stimuli. The IC<sub>50</sub> growth inhibitory concentration of fusicocin A is 92 μM in the U373-MG cells and 83 μM in the Hs683 glioma cells<sup>[4]</sup>. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

### REFERENCES

- [1]. Camoni L, et al. The phytotoxin fusicocin, a selective stabilizer of 14-3-3 interactions?. *IUBMB Life*. 2013;65(6):513-517.
- [2]. Doveston RG, et al. Small-molecule stabilization of the p53-14-3-3 protein-protein interaction. *FEBS Lett*. 2017;591(16):2449-2457.
- [3]. Kaplan A, et al. Small-Molecule Stabilization of 14-3-3 Protein-Protein Interactions Stimulates Axon Regeneration. *Neuron*. 2017;93(5):1082-1093.e5.
- [4]. Bury M, et al. Fusicocin a, a phytotoxic carbocyclic diterpene glucoside of fungal origin, reduces proliferation and invasion of glioblastoma cells by targeting multiple tyrosine kinases. *Transl Oncol*. 2013;6(2):112-123.

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

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