## Funalenone

Item No. 23491

CAS Registry No.: 259728-61-5

| Formal Name: | $3,4,7,9$-tetrahydroxy-2-methoxy- |
| :--- | :--- |
|  | 6 -methyl-1H-phenalen-1-one |
| MF: | $\mathrm{C}_{15} \mathrm{H}_{12} \mathrm{O}_{6}$ |
| FW: | 288.3 |
| Purity: | $\geq 95 \%$ |
| Supplied as: | A solid |
| Strage: | $-20^{\circ} \mathrm{C}$ |
| Stability: | $\geq 4$ years |

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Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures
Funalenone is supplied as a solid. A stock solution may be made by dissolving the funalenone in the solvent of choice, which should be purged with an inert gas. Funalenone is soluble in organic solvents such as ethanol, methanol, DMSO, and dimethyl formamide.

## Description

Funalenone is a phenalenone originally isolated from A. niger. ${ }^{1}$ It inhibits HIV-1 integrase ( $\mathrm{IC}_{50}=10 \mu \mathrm{M}$ ) and HIV-1 replication in human peripheral blood cells transformed by murine leukemia virus (HPB-M(a); $\left.\mathrm{IC}_{50}=1.7 \mu \mathrm{M}\right)$ but is less cytotoxic to mammalian $\operatorname{HPB}-\mathrm{M}(\mathrm{a})$ cells $\left(\mathrm{IC}_{50}=87 \mu \mathrm{M}\right) .{ }^{2}$ Funalenone selectively inhibits matrix metalloproteinase $1\left(M M P-1 ; \mathrm{IC}_{50}=170 \mu \mathrm{M}\right)$ over MMP-2 and MMP-9, which it inhibits by 18.3 and $38.2 \%$, respectively, when used at a concentration of $400 \mu \mathrm{M} .{ }^{1}$ It also inhibits the bacterial cell wall synthesis enzymes MraY and MurG $\left(\mathrm{IC}_{50}=25.5 \mu \mathrm{M}\right.$ in a membrane plate assay $)$ and inhibits growth of S. aureus with a MIC value of $64 \mu \mathrm{~g} / \mathrm{ml} .^{3}$

## References

1. Inokoshi, J., Shiomi, K., Masuma, R., et al. Funalenone, a novel collagenase inhibitor produced by Aspergillus niger. J. Antibiot. (Tokyo) 52(12), 1095-1100 (1999).
2. Shiomi, K., Matsui, R., Isozaki, M., et al. Fungal phenalenones inhibit HIV-1 integrase. J. Antibiot. (Tokyo) 58(1), 65-68 (2005).
3. Zawadzke, L.E., Wu, P., Cook, L.S., et al. Targeting the MraY and MurG bacterial enzymes for antimicrobial therapeutic intervention. Anal. Biochem. 314(2), 243-252 (2003).

## WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

## SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

