# PRODUCT INFORMATION

## Halicin

*Item No. 30436*

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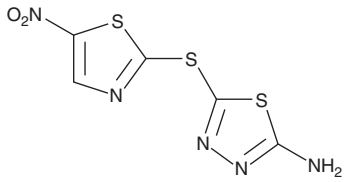
| **CAS Registry No.:** | 40045-50-9 |
| **Formal Name:** | 5-[(5-nitro-2-thiazolyl)thio]-1,3,4-thiadiazol-2-amine |
| **Synonym:** | SU 3327 |
| **MF:** | $C_5H_3N_5O_2S_3$ |
| **FW:** | 261.3 |
| **Purity:** | ≥98% |
| **UV/Vis.:** | $\lambda_{max}$: 293, 339 nm |
| **Supplied as:** | A crystalline solid |
| **Storage:** | -20°C |
| **Stability:** | ≥4 years |



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

### Laboratory Procedures

Halicin is supplied as a crystalline solid. A stock solution may be made by dissolving the halicin in the solvent of choice, which should be purged with an inert gas. Halicin is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of halicin in these solvents is approximately 20 and 30 mg/ml, respectively.

### Description

Halicin is a JNK1 inhibitor ($IC_{50}$ = 0.7 µM).[1,2] It is selective for JNK1 over p38α, Furin, and lethal factor ($IC_{50}$s = >100, >100, and >50 µM, respectively), as well as Akt at 100 µM.[1] Halicin inhibits TNF-α-induced phosphorylation of c-Jun in a cell-based assay ($EC_{50}$ = 6.23 µM). *In vivo*, halicin (25 mg/kg) reduces blood glucose levels and restores insulin sensitivity in insulin-insensitive mice. Halicin is active against carbapenem-resistant Enterobacteriaceae (MICs = 1-10 µg/ml), as well as multidrug-resistant *A. baumannii* and *P. aeruginosa* (MICs = 1-10 and 1-100 µg/ml, respectively).[2] It reduces the number of wound tissue colony forming units (CFUs) in a mouse model of *A. baumannii* wound infection. Halicin (15 mg/kg) also reduces fecal bacterial load in a mouse model of *C. difficile* infection.

### References


1. De, S.K., Stebbins, J.L., Chen, L.-H., *et al*. Design, synthesis, and structure-activity relationship of substrate competitive, selective, and *in vivo* active triazole and thiadiazole inhibitors of the c-Jun N-terminal kinase. *J. Med. Chem.* **52(7)**, 1943-1952 (2009).
2. Stokes, J.M., Yang, K., Swanson, K., *et al*. A deep learning approach to antibiotic discovery. *Cell* **180(4)**, 688-702 (2020).





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