

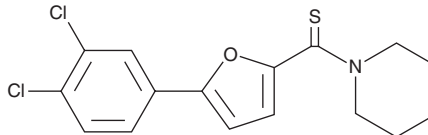
# PRODUCT INFORMATION



## DFPM

Item No. 19830

**CAS Registry No.:** 301338-95-4  
**Formal Name:** [5-(3,4-dichlorophenyl)-2-furanyl]-  
1-piperidinyl-methanethione  
**MF:** C<sub>16</sub>H<sub>15</sub>Cl<sub>2</sub>NOS  
**FW:** 340.3  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 236, 317 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

DFPM is supplied as a crystalline solid. A stock solution may be made by dissolving the DFPM in the solvent of choice, which should be purged with an inert gas. DFPM is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of DFPM in ethanol is approximately 0.14 mg/ml and approximately 2 mg/ml in DMSO and DMF.

DFPM is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, DFPM should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. DFPM has a solubility of approximately 0.2 mg/ml in a 1:4 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

DFPM is a modulator of plant signaling first demonstrated to down-regulate ABA-dependent gene expression (IC<sub>50</sub> = 3 μM) and stomatal closure.<sup>1</sup> It stimulates the expression of several plant defense-related genes and blocks signaling triggered by phytoalexin deficient 4 (PAD4).<sup>1</sup> DFPM also induces root growth arrest in certain accessions of *A. thaliana* through the expression of a novel protein that interacts with PAD4.<sup>2</sup>

### References

1. Kim, T.-H., Hauser, F., Ha, T., *et al.* Chemical genetics reveals negative regulation of abscisic acid signaling by a plant immune response pathway. *Curr. Biol.* **21(11)**, 990-997 (2011).
2. Kim, T.-H., Kunz, H.-H., Bhattacharjee, S., *et al.* Natural variation in small molecule-induced TIR-NB-LRR signaling induces root growth arrest via EDS1- and PAD4-complexed R protein VICTR in *Arabidopsis*. *Plant Cell* **24(12)**, 5177-5192 (2012).

#### 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.

#### WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 11/09/2022

#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897  
[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM