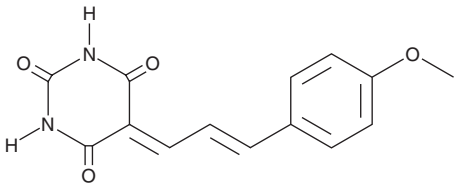
PRODUCT INFORMATION

ML-346

Item No. 23844

CAS Registry No.:	100872-83-1
Formal Name:	5-[3-(4-methoxyphenyl)-2-propen-1-ylidene]-2,4,6(1H,3H,5H)-pyrimidinetrione
MF:	$C_{14}H_{12}N_2O_4$
FW:	272.3
Purity:	≥98%
UV/Vis.:	λ_{max}: 260, 412 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥2 years



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

Laboratory Procedures

ML-346 is supplied as a crystalline solid. A stock solution may be made by dissolving the ML-346 in the solvent of choice. ML-346 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of ML-346 in ethanol is approximately 0.5 mg/ml and approximately 30 mg/ml in DMSO and DMF.

ML-346 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, ML-346 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. ML-346 has a solubility of approximately 0.33 mg/ml in a 1:2 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

ML-346 is an activator of the heat shock response that induces the expression of the heat shock proteins HSP70, HSP40, and HSP27.[1] It induces the expression of the oxidative stress response genes HO1, GCLM, and BiP in mouse embryonic fibroblasts (MEFs) and pretreatment protects cells from severe heat shock-induced death and H_2O_2-induced apoptosis. It promotes folding of metastable proteins in models of conformational disease, including cellular models of Huntingtin aggregation and cystic fibrosis. It reduces aggregate formation in PC12 cells expressing human Huntingtin exon 1 containing a 74 glutamine expansion when used at a concentration of 10 µM. It also corrects trafficking of cystic fibrosis transmembrane conductance regulator proteins bearing the F508 deletion (ΔF508-CFTR) mutation carried by the majority of cystic fibrosis patients, leading to increased cell surface expression.

Reference

1. Calamini, B., Silva, M.C., Madoux, F., *et al.* Small-molecule proteostasis regulators for protein conformational diseases. *Nat. Chem. Biol.* **8(2)**, 185-196 (2011).

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