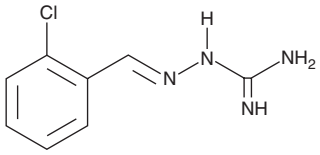
Product Information

Sephin1

Item No. 17757

CAS Registry No.:	13098-73-2
Formal Name:	2-[(2-chlorophenyl)methylene]-hydrazinecarboximidamide
Synonym:	NSC 65390
MF:	$C_8H_9ClN_4$
FW:	196.6
Purity:	≥95%
Stability:	≥2 years at -20°C
Supplied as:	A crystalline solid
UV/Vis.:	λ_{max}: 290 nm



Laboratory Procedures

For long term storage, we suggest that sephin1 be stored as supplied at -20°C. It should be stable for at least two years.

Sephin1 is supplied as a crystalline solid. A stock solution may be made by dissolving the sephin1 in the solvent of choice. Sephin1 is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of sephin1 in these solvents is approximately 2 mg/ml.

Sephin1 is sparingly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Description

Protein phosphatase 1C (PP1c) dephosphorylates the eukaryotic translation initiation factor 2α subunit (eIF2α) to turn off the unfolded protein response in the endoplasmic reticulum (ER). PP1c removes phosphates on eIF2α under the direction of one of two accessory subunits termed protein phosphatase 1 regulatory subunit 15A and 15B (PPP1R15A and PPP1R15B). Whereas PPP1R15B is constitutively expressed, PPP1R15A is induced by protein-misfolding stress. Sephin1 is a selective inhibitor of the stress-induced PPP1R15A that does not affect the constitutive PPP1R15B.[1] At 50 µM, it has been shown to prolong eIF2α phosphorylation after ER stress, delaying translation which protects cells from misfolded protein-induced cytotoxicity.[1] At 1-5 mg/kg, sephin1 has been shown to prevent defects resulting from protein misfolding in a mutant SOD1 mouse model of fast-progressing amyotrophic lateral sclerosis as well as a mouse model of Charcot-Marie-Tooth neuropathy.[1]

Reference

1. Das, I., Krzyzosiak, A., Schneider, K., *et al.* Preventing proteostasis diseases by selective inhibition of a phosphatase regulatory subunit. *Science* **348(6231)**, 239-242 (2015).

Cayman Chemical

Mailing address
1180 E. Ellsworth Road
Ann Arbor, MI
48108 USA

Phone
(800) 364-9897
(734) 971-3335

Fax
(734) 971-3640

E-Mail
custserv@caymanchem.com

Web
www.caymanchem.com