

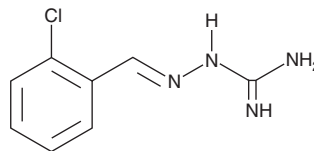
# PRODUCT INFORMATION



## Sephin1

Item No. 17757

**CAS Registry No.:** 13098-73-2  
**Formal Name:** 2-[(2-chlorophenyl)methylene]-hydrazinecarboximidamide  
**Synonym:** NSC 65390  
**MF:** C<sub>8</sub>H<sub>9</sub>ClN<sub>4</sub>  
**FW:** 196.6  
**Purity:** ≥95%  
**UV/Vis.:** λ<sub>max</sub>: 290 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

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

### 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.<sup>1</sup> At 50 μM, it has been shown to prolong eIF2α phosphorylation after ER stress, delaying translation which protects cells from misfolded protein-induced cytotoxicity.<sup>1</sup> 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.<sup>1</sup>

### 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).

**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.

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