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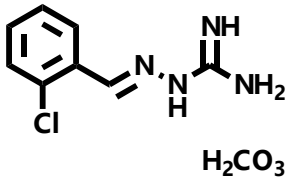
PPP1R15A Protein Phosphatase Inhibitor – Sephin1

Chemical Name: (E)-2-(2-chlorobenzylidene)hydrazine-1-carboximidamide carbonic acid salt



Molecular Weight:	258.66
Formula:	$C_8H_9ClN_4.CH_2O_3$
Purity:	≥98%
CAS#:	n/a
Solubility:	DMSO up to 100 mM
Storage	Powder: 4°C 1 year DMSO: 4°C 3 month -20°C 1 year

Biological Activity:

Sephin1 is a potent, selective and bioavailable inhibitor of the regulatory subunit PPP1R15A of protein phosphatase 1. It selectively bound and inhibited the stress-induced PPP1R15A, but not the related and constitutive PPP1R15B, to prolong the benefit of an adaptive phospho-signaling pathway, protecting cells from otherwise lethal protein misfolding stress. In vivo, Sephin1 safely prevented the motor, morphological, and molecular defects of two otherwise unrelated protein-misfolding diseases in mice, Charcot-Marie-Tooth 1B, and amyotrophic lateral sclerosis. Sephin1 could be a very good chemical tool to prevent proteostasis diseases by selective inhibition of a phosphatase regulatory subunit.

How to Use:

In vitro: Sephin1 was used at 0.1-1 μM final concentration in vitro and in cellular assays.

In vivo: Sephin1 was orally dosed to MPZ^{mutant} mice or $SOD1^{mutant}$ mice at 1 mg/Kg twice a day.

Reference:

1. Das I, et al. Preventing proteostasis diseases by selective inhibition of a phosphatase regulatory subunit. (2015) Science. 348(6231):239-42.