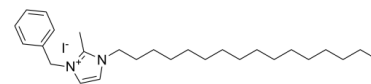


Data Sheet

Product Name:	NH125
Cat. No.:	CS-0019731
CAS No.:	278603-08-0
Molecular Formula:	C ₂₇ H ₄₅ IN ₂
Molecular Weight:	524.56
Target:	Autophagy; Bacterial; CaMK; Fungal; Virus Protease
Pathway:	Anti-infection; Autophagy; Neuronal Signaling
Solubility:	DMSO : 50 mg/mL (ultrasonic)



BIOLOGICAL ACTIVITY:

NH125 is a potent and selective inhibitor of eukaryotic elongation factor 2 kinase (**eEF-2K/CaMKII**), also can induce eEF2 phosphorylation, with an **IC₅₀** of 60 nM for eEF-2K^{[1][2]}. **IC₅₀ & Target:** IC₅₀: 60 nM (eEF-2K/CaMKII)^[1]. *In Vitro*: NH125 inhibits eEF-2 kinase activity (IC₅₀ = 60 nM) in vitro, blocks the phosphorylation of eEF-2 in intact cells, and shows relative selectivity over other protein kinases: protein kinase C (IC₅₀ = 7.5 μM), protein kinase A (IC₅₀ = 80 μM), and calmodulin-dependent kinase II (IC₅₀ > 100 μM). NH125 decreases the viability of 10 cancer cell lines with IC₅₀s ranging from 0.7 to 4.7 μM. Forced overexpression of eEF-2 kinase in a glioma cell line produces 10-fold resistance to NH125. In conclusion, these results suggest that identification of potent inhibitors of eEF-2 kinase may lead to the development of new types of anticancer drugs^[1]. Anticancer effect of NH125 is not mediated through inhibition of eEF2K. Inhibition of cell growth correlates with induction of p-eEF2^[2].

References:

[1]. Arora S, et al. Identification and characterization of an inhibitor of eukaryotic elongation factor 2 kinase against human cancer cell lines. *Cancer Res.* 2003 Oct 15;63(20):6894-9.

[2]. Chen Z, et al. 1-Benzyl-3-cetyl-2-methylimidazolium iodide (NH125) induces phosphorylation of eukaryotic elongation factor-2 (eEF2): a cautionary note on the anticancer mechanism of an eEF2 kinase inhibitor. *J Biol Chem.* 2011 Dec 23;286(51):43951-8.

CAIndexNames:

1H-Imidazolium, 1-hexadecyl-2-methyl-3-(phenylmethyl)-, iodide (1:1)

SMILES:

CC1=[N+](CC2=CC=CC=C2)C=CN1CCCCCCCCCCCCCCCCC.[I-]

Caution: Product has not been fully validated for medical applications. For research use only.

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