

Certificate of Analysis

Product Name: NH 125

Catalog No.: 3439

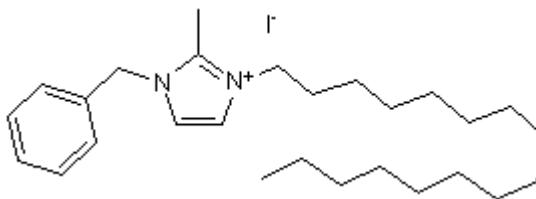
Batch No.: 1

CAS Number: 278603-08-0

IUPAC Name: 1-Hexadecyl-2-methyl-3-(phenylmethyl)-1*H*-imidazolium iodide

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₂₇H₄₅N₂
Batch Molecular Weight: 524.56
Physical Appearance: Off-white solid
Solubility: DMSO to 100 mM
 ethanol to 75 mM
Storage: Desiccate at -20°C
Batch Molecular Structure:



2. ANALYTICAL DATA

Melting Point: Between 87 - 90°C
¹H NMR: Consistent with structure
Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	61.82	8.65	5.34
Found	61.88	8.14	4.95

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Description:

Eukaryotic elongation factor 2 (eEF-2) kinase (CaMK III) inhibitor (IC₅₀ = 60 nM) that displays 125-fold, > 1300-fold and > 1500-fold selectivity over PKC, PKA and CaMK II respectively. Decreases the viability of a variety of cancer cell lines (IC₅₀ values are 0.7 - 4.8 μM) and blocks G₁/S cell cycle progression. Shown to induce eEF-2 phosphorylation in cancer cells. Also an effective antibacterial agent; inhibits histidine protein kinase in vitro (IC₅₀ = 6.6 μM) and in vivo.

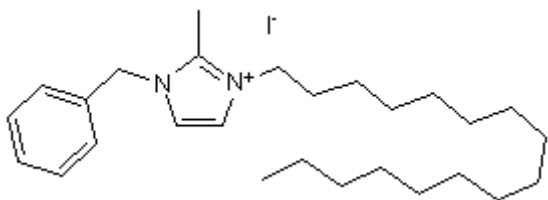
Physical and Chemical Properties:

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Physical Appearance: Off-white solid

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Storage: Desiccate at -20°C

Solubility & Usage Info:

DMSO to 100 mM

ethanol to 75 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Yamamoto et al (2001) Antibacterial agents that inhibit histidine protein kinase YycG of *Bacillus subtilis*. *Biosci.Biotechnol.Biochem.* **65** 2306. PMID: 11758928.

Arora et al (2003) Identification and characterization of an inhibitor of eukaryotic elongation factor 2 kinase against human cancer cell lines. *Cancer Res.* **63** 6894. PMID: 14583488.

Arora et al (2004) P-glycoprotein mediates resistance to histidine kinase inhibitors. *Mol.Pharmacol.* **66** 460. PMID: 15322237.

Chen (2011) 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.* **286** 43951. PMID: 22020937.

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