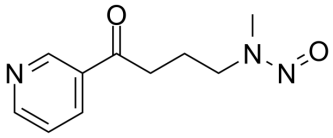
NNK

Cat. No.:	HY-126477
CAS No.:	64091-91-4
Molecular Formula:	$C_{10}H_{13}N_3O_2$
Molecular Weight:	207.23
Target:	Endogenous Metabolite
Pathway:	Metabolic Enzyme/Protease
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	NNK is a nicotine-nitrosated derivative. NNK simultaneously stimulates Bcl2 phosphorylation exclusively at Ser^{70} and c-Myc at Thr^{58} and Ser^{62} through activation of both ERK1/2 and PKCα[1]. NNK induces survival and proliferation of human lung cancer cells. NNK can be used for lung cancer mice model structure[2].
IC_{50} & Target	Human Endogenous Metabolite
In Vitro	NNK (100 pM; 0-60 min) stimulates activation of PKCα and MAPKs ERK1/2 that directly induce c-Myc phosphorylation[1]. NNK (100 pM; 96 hours) enhances proliferation of cells expressing WT but not AA c-Myc mutant[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Western Blot Analysis

Cell Line:	NCI-H82 cells[1]
Concentration:	100 pM
Incubation Time:	0-60 min
Result:	Stimulated activation of PKCα and MAPKs ERK1/2 that directly induced c-Myc phosphorylation.

Apoptosis Analysis

Cell Line:	H1299 lung cancer cells[1]
Concentration:	100 pM
Incubation Time:	96 hours
Result:	Enhanced proliferation of cells expressing WT but not T58A/S62A c-Myc mutant.

REFERENCES

[1]. Jin Z, Gao F, Flagg T, Deng X. Tobacco-specific nitrosamine 4-(methylnitrosamino)-1-(3-pyridyl)-1-butanone promotes functional cooperation of Bcl2 and c-Myc

through phosphorylation in regulating cell survival and proliferation. J Biol Chem. 2004;279(38):40209-40219.

[2]. Castonguay A, Pepin P, Stoner GD. Lung tumorigenicity of NNK given orally to A/J mice: its application to chemopreventive efficacy studies. Exp Lung Res. 1991;17(2):485-499.

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