

Product Data Sheet

Product Name: Norharmane

Cat. No.: GC15833

Chemical Properties

Cas. No. 244-63-3

Chemical Name 9H-Pyrido[3,4-b]indole

SMILES C1(C=CC=C2)=C2C(C=CN=C3)=C3N1

Formula $C_{11}H_8N_2$

M.Wt 168.2

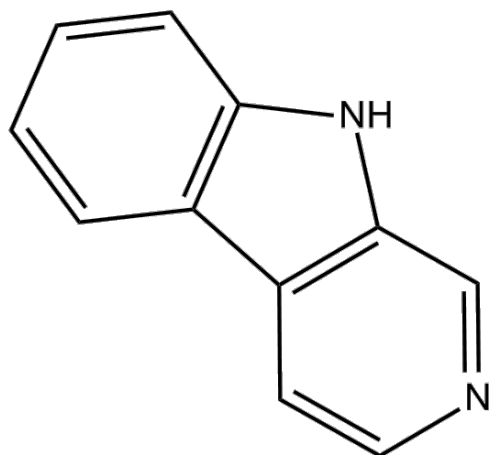
Solubility ≤ 1 mg/ml in ethanol; 1mg/ml in DMSO; 1mg/ml in dimethyl formamide

Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37°C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

Structure



Background

Norharmane acts as a co-mutagen. Norharmane is a natural β -carboline first isolated from plants of the Zygophyllaceae family. It is a heterocyclic amine (HCA) that may also be found in fried meats, tobacco smoke, and coffee. Harman and norharmane are aminocarbolines known as "co-mutagens".

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

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because they do not show mutagenicity to Salmonella serovar typhimurium [1][2][3].

Norharmane acts as a co-mutagen. Norharmane is widely distributed in our environment. It was not mutagenic to Salmonella typhimurium TA98 and TA100 either with or without S9 mix, but became mutagenic to S.typhimurium TA98 with S9 mix when non-mutagenic aromatic amines like aniline or o- or m-toluidine are added. Also, Norharmane and aromatic amines induced the formation of DNA adduct in S.typhimurium TA98 [3].

Harman and norharmane with concentrations of 0.275 uM and 0.9 uM respectively might inhibited MAO-A and MAO-B. In adult male rats, a novel cocktail of cigarette smoke constituents, containing five minor alkaloids (nornicotine, cotinine, myosmine, anatabine, and anabasine), two β -carbolines (harman and norharmane), and acetaldehyde, did not significantly enhance nicotine self-administration [2].

References:

- [1]. Jamali MA, Zhang Y, Teng H, et al. Inhibitory Effect of Rosa rugosa Tea Extract on the Formation of Heterocyclic Amines in Meat Patties at Different Temperatures. Molecules. 2016 Jan 30;21(2):173.
- [2]. Smith TT, Schaff MB, Rupprecht LE, et al. Effects of MAO inhibition and a combination of minor alkaloids, β -carbolines, and acetaldehyde on nicotine self-administration in adult male rats. Drug Alcohol Depend. 2015 Oct 1;155:243-52.
- [3]. Mori M1, Totsuka Y, Fukutome K, et al. Formation of DNA adducts by the co-mutagen norharman with aromatic amines. Carcinogenesis. 1996 Jul;17(7):1499-503.

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