

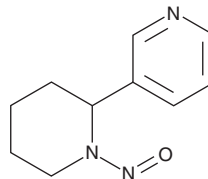
PRODUCT INFORMATION



(R,S)-N-Nitrosoanabasine

Item No. 44338

CAS Registry No.: 37620-20-5
Formal Name: 3-(1-nitroso-2-piperidiny)-pyridine
Synonyms: (R,S)-N'-Nitrosoanabasine, NAB
MF: C₁₀H₁₃N₃O
FW: 191.2
Purity: ≥98%
Supplied as: A low-melting solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

(R,S)-N-Nitrosoanabasine is supplied as a low-melting solid. A stock solution may be made by dissolving the (R,S)-N-nitrosoanabasine in the solvent of choice, which should be purged with an inert gas. (R,S)-N-Nitrosoanabasine is soluble (≥10 mg/ml) in ethanol and DMSO.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of (R,S)-N-nitrosoanabasine can be prepared by directly dissolving the low-melting solid in aqueous buffers. (R,S)-N-Nitrosoanabasine is sparingly soluble (1-10 mg/ml) in PBS (pH 7.2). We do not recommend storing the aqueous solution for more than one day.

Description

(R,S)-N-Nitrosoanabasine (NAB) is a tobacco-specific N-nitrosamine (TSNA) that has been found in tobacco products and electronic cigarettes.^{1,2} It inhibits the metabolism of 4-(methylnitrosamino)-1-(3-pyridyl)-1-butanone (NNK; Item No. 16414) into 4-oxo-4-(3-pyridyl) butanal (OPB), 4-hydroxy-1-(3-pyridyl)-1-butanone (HPB), and 4-oxo-4-(3-pyridyl) butanoic acid (OPBA) by the cytochrome P450 (CYP) isoform CYP2A13 with K_i values of 0.23, 0.87, and 0.5 μM, respectively.³ NAB is not carcinogenic in hamsters but is carcinogenic in mice.^{4,5}

References

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3. Liu, X., Zhang, J., Zhang, C., *et al.* The inhibition of cytochrome P450 2A13-catalyzed NNK metabolism by NAT, NAB and nicotine. *Toxicol. Res. (Camb)*. **5(4)**, 1115-1121 (2016).
4. Hilfrich, J., Hecht, S.S., and Hoffmann, D. A study of tobacco carcinogenesis. XV. Effects of N'-nitrosoanabasine and N'-nitrosoanabasine in Syrian golden hamsters. *Cancer Lett.* **2(3)**, 169-175 (1977).
5. Hoffmann, D., Djordjevic, M.V., Rivenon, A., *et al.* A study of tobacco carcinogenesis. LI. Relative potencies of tobacco-specific N-nitrosamines as inducers of lung tumours in A/J mice. *Cancer Lett.* **71(1-3)**, 25-30 (1993).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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