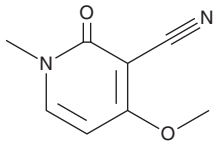
PRODUCT INFORMATION

Ricinine

Item No. 33748

CAS Registry No.:	524-40-3
Formal Name:	1,2-dihydro-4-methoxy-1-methyl-2-oxo-3-pyridinecarbonitrile
Synonyms:	NSC 409913, NSC 642604
MF:	$C_8H_8N_2O_2$
FW:	164.2
Purity:	≥98%
UV/Vis.:	λ_{max}: 219, 316 nm
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years
Item Origin:	Plant/*Ricinus communis* Linn



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

Laboratory Procedures

Ricinine is supplied as a solid. A stock solution may be made by dissolving the ricinine in the solvent of choice, which should be purged with an inert gas. Ricinine is slightly soluble in methanol and DMSO.

Description

Ricinine is a piperidine alkaloid that has been found in *R. communis* and has diverse biological activities.[1-4] It is an inhibitor of acetylcholinesterase (AChE; IC_{50} = 54.5 µg/ml).[2] It scavenges ABTS (Item No. 27317) radicals and chelates iron (IC_{50}s = 102.65 and 104.32 µg/ml, respectively). Ricinine is toxic to adult *A. gambiae* when used at a concentration of 0.04 mg/ml in a feeding assay.[3] It is also toxic to mice with an intraperitoneal LD_{50} value of 340 mg/kg but an oral LD_{50} value of 3,000 mg/kg.[1] It has been used as a biomarker of ricin poisoning.[4]

References

1. Franke, H., Scholl, R., and Aigner, A. Ricin and *Ricinus communis* in pharmacology and toxicology-from ancient use and "Papyrus Ebers" to modern perspectives and "poisonous plant of the year 2018". *Naunyn Schmiedebergs Arch. Pharmacol.* **392(10)**, 1181-1208 (2019).
2. Khan, B.R., Ghous, T., Rasheed, A., *et al.* Evaluation of anti-acetylcholinesterase activity and antioxidant potential of ricinine (a central nervous system stimulant) isolated from *Ricinius communis L. J. Chem. Soc. Pak.* **38(2)**, 326-332 (2016).
3. Wachira, S.W., Omar, S., Jacob, J.W., *et al.* Toxicity of six plant extracts and two pyridone alkaloids from *Ricinus communis* against the malaria vector *Anopheles gambiae*. *Parasit. Vectors* **7**, 312 (2014).
4. Johnson, R.C., Lemire, S.W., Woolfitt, A.R., *et al.* Quantification of ricinine in rat and human urine: A biomarker for ricin exposure. *J. Anal. Toxicol.* **29(3)**, 149-155 (2005).

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