

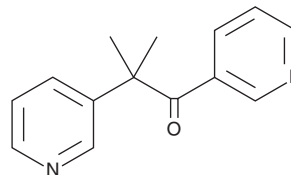
PRODUCT INFORMATION



Metyrapone

Item No. 14994

CAS Registry No.: 54-36-4
Formal Name: 2-methyl-1,2-di-3-pyridinyl-1-propanone
Synonyms: NSC 25265, SU 4885
MF: C₁₄H₁₄N₂O
FW: 226.3
Purity: ≥98%
UV/Vis.: λ_{max}: 231, 264 nm
Supplied as: A crystalline 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

Metyrapone is supplied as a crystalline solid. A stock solution may be made by dissolving the metyrapone in the solvent of choice, which should be purged with an inert gas. Metyrapone is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of metyrapone in these solvents is approximately 30 mg/ml.

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 metyrapone can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of metyrapone in PBS (pH 7.2) is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Metyrapone is an inhibitor of the cytochrome P450 (CYP) enzyme 11β-hydroxylase (IC₅₀ = 7.83 μM), an enzyme involved in the final step of cortisol biosynthesis.¹ It also induces *Cyp1a1* and *Cyp3a4* expression in rat hepatic microsomes and inhibits the activity of 11β-hydroxysteroid dehydrogenase type 1 (11β-HSD1) in sheep liver microsomes.²⁻⁴ Metyrapone (150 mg/kg, s.c.) suppresses hypoxia-ischemia-induced increases in plasma corticosterone levels and seizures in rats.⁵ It also reduces ethanol consumption in alcohol high-preferring rats.⁶ Formulations containing metyrapone have been used in the diagnosis of adrenal insufficiency and the treatment of Cushing's disease.

References

1. Hays, S.J., Tobes, M.C., Gildersleeve, D.L., *et al.* *J. Med. Chem.* **27(1)**, 15-19 (1984).
2. Harvey, J.L., Paine, A.J., and Wright, M.C. *Biochem. J.* **331(1)**, 273-281 (1998).
3. Paine, A.J., Villa, P., and Hockin, L.J. *J.* **188(3)**, 937-939 (1980).
4. Sampath-Kumar, R., Yu, M., Khalil, M.W., *et al.* *J. Steroid Biochem. Mol. Biol.* **62(2-3)**, 195-199 (1997).
5. Krugers, H.J., Kemper, R.H., Korf, J., *et al.* *J. Cereb. Blood Flow Metab.* **18(4)**, 386-390 (1998).
6. Fahlke, C., Hård, E., Thomasson, R., *et al.* *Pharmacol. Biochem. Behav.* **48(4)**, 977-981 (1994).

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.

WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 11/29/2022

CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM