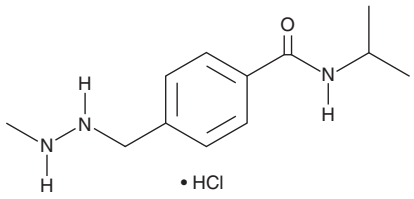
PRODUCT INFORMATION

Procarbazine (hydrochloride)

Item No. 16133

CAS Registry No.:	366-70-1
Formal Name:	N-(1-methylethyl)-4-[(2-methylhydrazinyl)methyl]-benzamide, monohydrochloride
Synonyms:	Indicarb, Natulan, NSC 77213
MF:	$C_{12}H_{19}N_3O \bullet HCl$
FW:	257.8
Purity:	≥98%
UV/Vis.:	λ_{max}: 230 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

Procarbazine (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the procarbazine (hydrochloride) in the solvent of choice, which should be purged with an inert gas. Procarbazine (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of procarbazine (hydrochloride) in ethanol and DMF is approximately 2 mg/ml and approximately 25 mg/ml 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 procarbazine (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of procarbazine (hydrochloride) in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Procarbazine is a methyl hydrazine derivative that is converted by metabolism into a methylating species which converts DNA to various DNA adducts, including O^6-methylguanine.[1] While this process is mutagenic and carcinogenic, procarbazine is used with the compounds mechlorethamine, vincristine, also known as oncovin (Item No. 11764), and prednisone as part of the MOPP regimen for fighting Hodgkin disease.[1-3] Procarbazine also has utility, in combination with other agents, in reducing the frequency of epileptic seizures in patients with pharmacoresistant epilepsy.[4]

References

1. Kyrtopoulos, S.A. Variability in DNA repair and individual susceptibility to genotoxins. *Clin. Chem.* **41(12 Pt 2)**, 1848-1853 (1995).
2. Bonadonna, G. Chemotherapy strategies to improve the control of Hodgkin's disease: The Richard and Hinda Rosenthal Foundation Award lecture. *Cancer Res.* **42(11)**, 4309-4320 (1982).
3. Erikson, J.M., Tweedie, D.J., Ducore, J.M., *et al.* Cytotoxicity and DNA damage caused by the azoxy metabolites of procarbazine in L1210 tumor cells. *Cancer Res.* **49(1)**, 127-133 (1989).
4. Rudà, R., Bello, L., Duffau, H., *et al.* Seizures in low-grade gliomas: Natural history, pathogenesis, and outcome after treatments. *Neuro. Oncol.* **14(Suppl 4)**, 55-64 (2012).

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