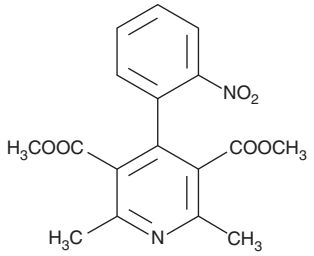
PRODUCT INFORMATION

Dehydro Nifedipine

Item No. 23229

CAS Registry No.:	67035-22-7
Formal Name:	2,6-dimethyl-4-(2-nitrophenyl)-3,5-dimethyl ester 3,5-pyridinedicarboxylic acid
Synonym:	BAY-b 4759
MF:	$C_{17}H_{16}N_2O_6$
FW:	344.3
Purity:	≥98%
UV/Vis.:	λ_{max}: 260 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

Dehydro nifedipine is supplied as a crystalline solid. A stock solution may be made by dissolving the dehydro nifedipine in the solvent of choice. Dehydro nifedipine is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of dehydro nifedipine in ethanol is approximately 3 mg/ml and approximately 30 mg/ml in DMSO and DMF.

Dehydro nifedipine is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, dehydro nifedipine should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Dehydro nifedipine has a solubility of approximately 0.1 mg/ml in a 1:10 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Dehydro nifedipine is an active metabolite of nifedipine (Item No. 11106), a calcium channel blocker present in formulations used to treat hypertension and angina.[1-4] Dehydro nifedipine is formed when nifedipine is metabolized by the cytochrome P450 (CYP) isomers CYP3A4 and CYP3A5.[2] Dehydro nifedipine inhibits glucose uptake in PC-12 cells with an IC_{50} value of 130 µM.[1]

References

1. Ardizzone, T.D., Lu, X.H., and Dwyer, D.S. Calcium-independent inhibition of glucose transport in PC-12 and L6 cells by calcium channel antagonists. *Am. J. Physiol. Cell Physiol.* **283(2)**, C579-586 (2002).
2. Patki, K.C., Von Moltke, L.L., and Greenblatt, D.J. *In vitro* metabolism of midazolam, triazolam, nifedipine, and testosterone by human liver microsomes and recombinant cytochromes p450: Role of cyp3a4 and cyp3a5. *Drug Metab. Dispos.* **31(7)**, 938-944 (2003).
3. Ago, T., Yang, Y., Zhai, P., *et al.* Nifedipine inhibits cardiac hypertrophy and left ventricular dysfunction in response to pressure overload. *J. Cardiovasc. Transl. Res.* **3(4)**, 304-313 (2010).
4. Lemay, J., Tea, B.S., Hamet, P., *et al.* Regression of neointimal lesions in the carotid artery of nifedipine-treated SHR and WKY rats: Possible role of apoptosis. *J. Vasc. Res.* **38(5)**, 462-470 (2001).

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