Print Date: Aug 16th 2018

Certificate of Analysis

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Product Name: **Diltiazem hydrochloride** **Catalog No.: 0685** **Batch No.: 4**

CAS Number: 33286-22-5 EC Number: 251-443-3

IUPAC Name: (2*S*-*cis*)-3-(Acetyloxy)-5-[2-(dimethylamino)ethyl]-2,3-dihydro-2-(4-methoxyphenyl)-1,5-benzothiazepin-4(5*H*)-one hydrochloride

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{22}H_{26}N_2O_4S.HCl$

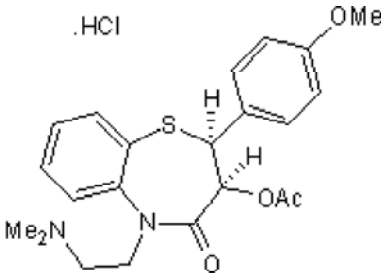
Batch Molecular Weight: 450.98

Physical Appearance: White solid

Solubility: water to 100 mM
DMSO to 100 mM

Storage: Store at RT

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.3% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Optical Rotation: $[\alpha]_D$ = +101.4 (Concentration = 1, Solvent = Methanol)

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	58.59	6.03	6.21
Found	58.42	6.07	6.21

bio-techne.com
info@bio-techne.com
techsupport@bio-techne.com

North America
Tel: (800) 343 7475

China
info.cn@bio-techne.com
Tel: +86 (21) 52380373

Europe Middle East Africa
Tel: +44 (0)1235 529449

Rest of World
www.tocris.com/distributors
Tel:+1 612 379 2956

Product Information

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Description:

Antihypertensive and cardioprotective agent; an inhibitor of L-type Ca^{2+} channels.

Physical and Chemical Properties:

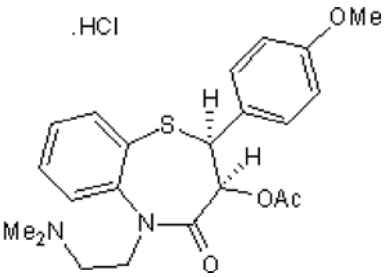
Batch Molecular Formula: $C_{22}H_{26}N_2O_4S.HCl$

Batch Molecular Weight: 450.98

Physical Appearance: White solid

Minimum Purity: >99%

Batch Molecular Structure:



Storage: Store at RT

Solubility & Usage Info:

water to 100 mM
DMSO to 100 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Kraus *et al* (1998) Molecular mechanisms of diltiazem interaction with L-type Ca^{2+} channels. J.Biol.Chem. ***273*** 27205. PMID: 9765241.

Gandia *et al* (1996) Inhibition of nicotinic receptor-mediated responses in bovine chromaffin cells by diltiazem. Br.J.Pharmacol. ***118*** 1301. PMID: 8818357.

Ishibashi *et al* (1995) Block of P-type Ca^{2+} channels in freshly dissociated rat cerebellar Purkinje neurons by diltiazem and verapamil. Brain Res. ***695*** 88. PMID: 8574653.

Dagani *et al* (1989) Effects of diltiazem on bioenergetics, K^+ gradients, and free cytosolic Ca^{2+} levels in rat brain synaptosomes submitted to energy metabolism inhibition and depolarization. J.Neurochem. ***53*** 1379. PMID: 2795006.

Merck Index ***12*** 3247.

bio-techne.com
info@bio-techne.com
techsupport@bio-techne.com

North America
Tel: (800) 343 7475

China
info.cn@bio-techne.com
Tel: +86 (21) 52380373

Europe Middle East Africa
Tel: +44 (0)1235 529449

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www.tocris.com/distributors
Tel:+1 612 379 2956