Certificate of Analysis

Product Name: **Trequinsin hydrochloride** **Catalog No.: 2337** **Batch No.: 1**

CAS Number: 78416-81-6

IUPAC Name: 2,3,6,7-Tetrahydro-9,10-dimethoxy-3-methyl-2-[(2,4,6-trimethylphenyl)imino]-4*H*-pyrimido[6,1-*a*]isoquinolin-4-one hydrochloride

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{24}H_{27}N_3O_3$.HCl

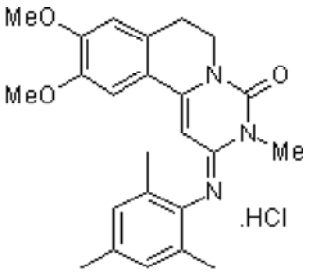
Batch Molecular Weight: 441.95

Physical Appearance: Pale yellow solid

Solubility: DMSO to 100 mM
ethanol to 100 mM

Storage: Desiccate at RT

Batch Molecular Structure:



2. ANALYTICAL DATA

TLC: R_f = 0.2 (Ether:Petroleum ether [2:1])

HPLC: Shows 96.6%% purity

^{1}H NMR: Consistent with structure

^{13}C NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	65.22	6.39	9.5
Found	64.95	6.46	9.32

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Product Information

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Description:

Trequinsin hydrochloride is a highly potent inhibitor of cGMP-inhibited phosphodiesterase (PDE3; IC_{50} = 250 pM). Potently inhibits arachidonic acid-induced aggregation of human platelets (IC_{50} = 50 pM). Orally active antihypertensive agent; reduces systemic blood pressure in both normotensive and hypertensive animal models. Also activates CatSper channels, increases intracellular Ca^{2+} and cGMP levels, and decreases potassium channel activity in sperm.

Physical and Chemical Properties:

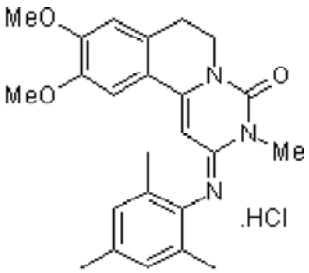
Batch Molecular Formula: $C_{24}H_{27}N_3O_3.HCl$

Batch Molecular Weight: 441.95

Physical Appearance: Pale yellow solid

Minimum Purity: ≥97%

Batch Molecular Structure:



Storage: Desiccate at RT

Solubility & Usage Info:

DMSO to 100 mM
ethanol 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:

McBrinn *et al* (2019) Novel pharmacological actions of Trequinsin Hydrochloride improve human sperm cell motility and function. Br.J.Pharmacol.. PMID: 31368510.

Agarwal *et al* (1987) Role of plasma adenosine in the antiplatelet action of HL 725, a potent inhibitor of cAMP phosphodiesterase: species differences. Thromb.Res. ***47*** 191. PMID: 2821650.

Lal *et al* (1984) Trequinsin, a potent new antihypertensive vasodilator in the series of 2-(arylimino)-3-alkyl-9,10-dimethoxy-3,4,6,7-tetrahydro-2*H*-pyrimido[6,1-a]isoquinolin-4-ones. J.Med.Chem. ***27*** 1470. PMID: 6492077.

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