

Certificate of Analysis

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Product Name: Sildenafil citrate

Catalog No.: 3784

Batch No.: 1

CAS Number: 171599-83-0

IUPAC Name: 1-[[3-(4,7-Dihydro-1-methyl-7-oxo-3-propyl-1*H*-pyrazolo[4,3-*d*]pyrimidin-5-yl)-4-ethoxyphenyl]sulfonyl]-4-methylpiperazine citrate

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₂₂H₃₀N₆O₄S.C₆H₈O₇.1/4H₂O

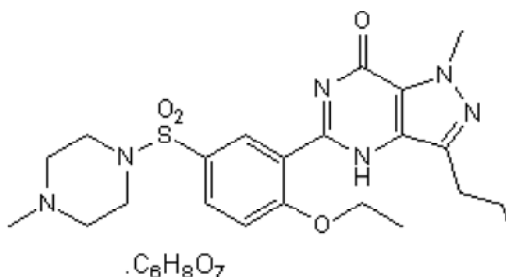
Batch Molecular Weight: 671.2

Physical Appearance: White solid

Solubility: DMSO to 100 mM

Storage: Desiccate at RT

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.9% purity

¹H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:	Carbon Hydrogen Nitrogen			
Theoretical	50.11	5.78	12.52	
Found	49.97	5.8	12.36	

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Description:

Sildenafil citrate is an orally active, potent inhibitor of phosphodiesterase 5 (PDE5) ($IC_{50} = 4 \text{ nM}$). Enhances nitric oxide-dependent relaxation of human corpus cavernosum in vitro. Sildenafil citrate promotes mobilization of hematopoietic stem cells (HSCs) in combination with AMD 3100 (Cat. No. 3299). Reduces pulmonary pressure and edema.

Physical and Chemical Properties:

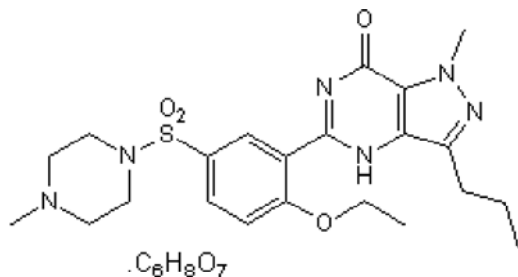
Batch Molecular Formula: $C_{22}H_{30}N_6O_4S \cdot C_6H_8O_7 \cdot \frac{1}{4}H_2O$

Batch Molecular Weight: 671.2

Physical Appearance: White solid

Minimum Purity: $\geq 99\%$

Batch Molecular Structure:



Storage: Desiccate at RT

Solubility & Usage Info:

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:

Smith-Berdan et al (2019) Viagra enables efficient, single-day hematopoietic stem cell mobilization. Stem Cell Reports.. PMID: 31607567.

Ghofrani et al (2006) Sildenafil: from angina to erectile dysfunction to pulmonary hypertension and beyond. Nat.Rev.Drug Discov. **5** 689. PMID: 16883306.

Turko et al (1999) Inhibition of cyclic cGMP-binding cyclic GMP-specific phosphodiesterase (type 5) by silde. and related compounds. Mol.Pharmacol. **56** 124. PMID: 10385692.

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