Product Data Sheet

Product Name: Sildenafil mesylate
Cat. No.: GC15037

Chemical Properties

Cas. No.	1308285-21-3		
Chemical Name	5-(2-ethoxy-5-((4-methylpiperazin-1-yl)sulfonyl)phenyl)-1-methyl-3-propyl-1H-pyrazolo[4,3-d]pyrimidin-7(6H)-one methanesulfonate		
SMILES	CCCC(C(N=C(N1)C2=C(OCC)C=CC(S(N3CCN(CC3)C)(=O)=O)=C2)=C4C1=O)=NN4C.CS(O)(=O)=O		
Formula	$C_{23}H_{34}N_6O_7S_2$	M.Wt	570.68
Solubility	≥ 57.1mg/mL in DMSO	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	Sildenafil mesylate		

Background

IC50: 3.5 nM

Sildenafil mesylate is an inhibitor of cyclic guanosine monophosphate (cGMP)-specific phosphodiesterase type 5 (PDE5).

PDE5 is the predominant phosphodiesterase in the corpus cavernosum. The catalytic site of PDE5 degrades cGMP, and PDE5 inhibitors can potentiate endogenous increases in cGMP.

In vitro: Sildenafil mesylate had been identified as a potent PDE5 reversible and selective inhibitor. Sildenafil enhanced sodium nitroprusside- or transmural electrical stimulation-induced relaxation of precontracted corpus cavernosum muscle strips in organ baths. Sildenafil also increased intracellular cGMP concentrations in cultured smooth muscle cells treated with sodium nitroprusside [1].

Caution: Product has not been fully validated for medical applications. For research use only.
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In vivo: In anesthetized dogs, sildenafil could enhance the erectile function following pelvic nerve stimulation as measured by increased intracavernosal pressure [1].

Clinical trial: Ten previous randomised controlled trials had been conducted. Dose optimisation resulted in >60% of attempts at sexual intercourse, which was successful in 49% of men. Sildenafil treatment related adverse events occurred in 30% of men compared with 11% on placebo. Dose optimisation of sildenafil showed efficacy equivalent to the highest fixed doses, and adverse events equivalent to the lowest fixed doses [2].

References:
[1] Nehra A,Colreavy F,Khandheria BK,Chandrasekaran K. Sildenafil citrate, a selective phosphodiesterase type 5 inhibitor: urologic and cardiovascular implications. World J Urol.2001 Feb;19(1):40-5.
[2] Moore RA,Edwards JE,McQuay HJ. Sildenafil (Viagra) for male erectile dysfunction: a meta-analysis of clinical trial reports. BMC Urol.2002 May 22;2:6.

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