



LKT Laboratories, Inc.

Sildenafil Citrate

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Product Information

Product ID S3313

CAS No. 171599-83-0

Chemical Name

Synonym

Formula $C_{22}H_{30}N_6O_4S \cdot C_6H_8O_7$

Formula Wt. 666.70

Melting Point

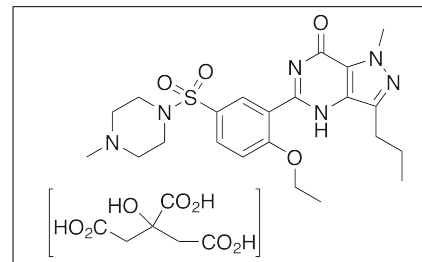
Purity $\geq 98\%$

Solubility Insoluble in water, ethanol. Soluble in DMSO to 23 mg/mL, MeOH

Store Temp Ambient

Ship Temp Ambient

Description Sildenafil is a phosphodiesterase 5 and 6 (PDE5, PDE6) inhibitor that is clinically used to treat erectile dysfunction and pulmonary arterial hypertension. Sildenafil exhibits antihypertensive (through vasodilatory action), antioxidative, and anti-inflammatory activities. In mouse models of sickle cell anemia, sildenafil promotes eNOS activation and inhibits NADPH oxidase, decreasing oxidative stress. In other animal models, sildenafil decreases Iba-1, IFN- γ , and IL-1 β levels and increases glutathione levels, improving myelin structure. This compound also decreases iNOS, TNF- α , and caspase-3 expression in vivo. Additionally, sildenafil restores phosphorylation of smad1/5 and expression of inhibitor of DNA binding protein 1 in animals, preventing vascular remodeling and the development of pulmonary hypertension and potentiating bone morphogenetic protein signaling.



Pricing and Availability

Bulk quantities available upon request

| Product ID | Size |
|------------|--------|
| S3313 | 50 mg |
| S3313 | 250 mg |
| S3313 | 1 g |

References Musicki B, Bivalacqua TJ, Champion HC, et al. Sildenafil Promotes eNOS Activation and Inhibits NADPH Oxidase in the Transgenic Sickle Cell Mouse Penis. J Sex Med. 2013 Nov 20. doi: 10.1111/jsm.12391. [Epub ahead of print]. PMID: 24251665.

Raposo C, Nunes AK, Luna RL, et al. Sildenafil (Viagra) protective effects on neuroinflammation: the role of iNOS/NO system in an inflammatory demyelination model. Mediators Inflamm. 2013;2013:321460. PMID: 23970812.

Abdel-latif RG, Morsy MA, El-Moselhy MA, et al. Sildenafil protects against nitric oxide deficiency-related nephrotoxicity in cyclosporine A treated rats. Eur J Pharmacol. 2013 Apr 5;705(1-3):126-34. PMID: 23499693.

Yang J, Li X, Al-Lamki RS, et al. Sildenafil potentiates bone morphogenetic protein signaling in pulmonary arterial smooth muscle cells and in experimental pulmonary hypertension. Arterioscler Thromb Vasc Biol. 2013 Jan;33(1):34-42. PMID: 23139294.

Ballard SA, Gingell CJ, Tang K, et al. Effects of sildenafil on the relaxation of human corpus cavernosum tissue in vitro and on the activities of cyclic nucleotide phosphodiesterase isozymes. J Urol. 1998 Jun;159(6):2164-71. PMID: 9598563.

Caution: This product is intended for laboratory and research use only. It is not for human or drug use.