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- Trockeneiszuschlag
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- Expressversand

SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

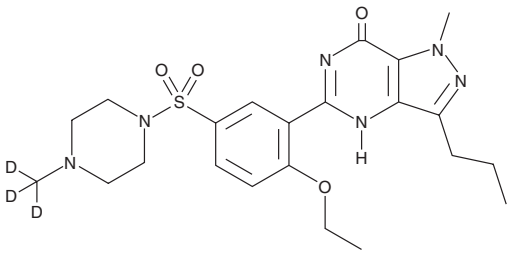
linkedin.com/company/szaboscandic

PRODUCT INFORMATION

Sildenafil-d_3

Item No. 18261

CAS Registry No.: 1126745-90-1
Formal Name: 5-[2-ethoxy-5-[[4-(methyl-d_3)-1-piperazinyl] sulfonyl]phenyl]-1,6-dihydro-1-methyl-3-propyl-7H-pyrazolo[4,3-d]pyrimidin-7-one
MF: $C_{22}H_{27}D_3N_6O_4S$
FW: 477.6
Chemical Purity: ≥98% (Sildenafil)
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_3); ≤1% d_0
Supplied as: A solid
Storage: -20°C
Stability: ≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Sildenafil-d_3 is intended for use as an internal standard for the quantification of sildenafil (Item Nos. 10008671 | 14008) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

Sildenafil-d_3 is supplied as a solid. A stock solution may be made by dissolving the sildenafil-d_3 in the solvent of choice. Sildenafil-d_3 is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of sildenafil-d_3 in these solvents is approximately 10 and 5 mg/ml, respectively.

Description

Sildenafil-d_3 is intended for use as an internal standard for the quantification of sildenafil (Item Nos. 10008671 | 14008) by GC- or LC-MS. Sildenafil is a potent inhibitor of phosphodiesterase 5 (PDE5) with IC_{50} values of 3.6 and 3 nM for PDE5 activity in isolated rabbit platelets and human corpus cavernosum, respectively.[1] It is selective for PDE5 over PDE1 and PDE3 (IC_{50}s = 0.26 and 65 µM, respectively). Sildenafil reverses glucose-induced decreases in angiopoietin 1 (Ang1) expression and reduction of capillary-like tube formation by mouse dermal endothelial cells *in vitro* and increases the number of functional blood vessels and regional blood flow in the sciatic nerve in a *db/db* mouse model of diabetic peripheral neuropathy.[2] It increases the ratio of maximum intracavernosal pressure to mean arterial blood pressure (ICP/MAP), a measure of erectile function, in castrated rats when administered at a dose of 20 mg/kg per day.[3] Sildenafil (0.5 mg/kg) also reduces cardiac arrest and resuscitation-induced increases in angiotensin II (Item No. 17150), angiotensin converting enzyme (ACE), ACE2, and various angiotensin receptors and increases survival in a porcine model of ischemia/reperfusion injury.[4] Formulations containing sildenafil have been used in the treatment of erectile dysfunction, pulmonary arterial hypertension, and high-altitude pulmonary edema associated with altitude sickness.

References

1. Terrett, N.K., Bell, A.S., Brown, D., *et al. Bioorg. Med. Chem. Lett.* **6(15)**, 1819-1824 (1996).
2. Wang, L., Chopp, M., Szalad, A., *et al. PLoS One* **10(2)**, e0118134 (2015).
3. Mulhall, J.P., Verma, N., Deveci, S., *et al. BJU Int.* **113(4)**, 656-661 (2014).
4. Wang, G., Zhang, Q., Yuan, W., *et al. Int. J. Mol. Sci.* **16(11)**, 27015-27031 (2015).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM