



# SZABO SCANDIC

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## Produktinformation



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Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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### SZABO-SCANDIC HandelsgmbH

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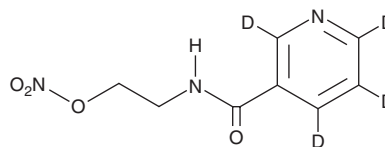
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# PRODUCT INFORMATION



## Nicorandil-d<sub>4</sub> Item No. 33608

**CAS Registry No.:** 1132681-23-2  
**Formal Name:** N-[2-(nitrooxy)ethyl]-3-pyridine-2,4,5,6-d<sub>4</sub>-carboxamide  
**Synonym:** 2-Nicotinamidoethyl nitrate-d<sub>4</sub>  
**MF:** C<sub>8</sub>H<sub>5</sub>D<sub>4</sub>N<sub>3</sub>O<sub>4</sub>  
**FW:** 215.2  
**Chemical Purity:** ≥98% (Nicorandil)  
**Deuterium Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>4</sub>); ≤1% d<sub>0</sub>  
**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

Nicorandil-d<sub>4</sub> is intended for use as an internal standard for the quantification of nicorandil (Item No. 18460) 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).

Nicorandil-d<sub>4</sub> is supplied as a solid. A stock solution may be made by dissolving the nicorandil-d<sub>4</sub> in the solvent of choice, which should be purged with an inert gas. Nicorandil-d<sub>4</sub> is soluble in DMSO.

### Description

Nicorandil is an activator of sulfonylurea receptor 2B (SUR2B) linked to ATP-sensitive potassium channel K<sub>ir</sub>6.2 (EC<sub>50</sub> = ~10 μM) and a nitric oxide (NO) donor.<sup>1,2</sup> It is selective for SUR2B/K<sub>ir</sub>6.2 over the SUR2A/K<sub>ir</sub>6.2 channel (EC<sub>50</sub> = >500 μM).<sup>1</sup> Nicorandil activates soluble guanylate cyclase in a cell-free assay and relaxes partially depolarized isolated bovine coronary artery strips (EC<sub>50</sub> = 4.4 μM).<sup>3</sup> It decreases mean blood pressure, coronary resistance, and heart rate, as well as increases coronary sinus outflow, in dogs when administered intravenously at a dose of 1 mg/kg.<sup>4</sup> Nicorandil increases survival and decreases infarct size in a rabbit model of myocardial ischemia-reperfusion injury induced by left coronary artery occlusion.<sup>5</sup> Formulations containing nicorandil have been used in the treatment of angina pectoris.

### References

1. Shindo, T., Yamada, M., Isomoto, S., *et al.* SUR2 subtype (A and B)-dependent differential activation of the cloned ATP-sensitive K<sup>+</sup> channels by pinacidil and nicorandil. *Br. J. Pharmacol.* **124**(5), 985-991 (1998).
2. Frampton, J., Buckley, M.M., and Fitton, A. Nicorandil. A review of its pharmacology and therapeutic efficacy in angina pectoris. *Drugs* **44**(4), 625-655 (1992).
3. Holzmann, S. Cyclic GMP as possible mediator of coronary arterial relaxation by nicorandil (SG-75). *J. Cardiovasc. Pharmacol.* **5**(3), 364-370 (1983).
4. Taira, N., Satoh, K., Yanagisawa, T., *et al.* Pharmacological profile of a new coronary vasodilator drug, 2-nicotinamidoethyl nitrate (SG-75). *Clin. Exp. Pharmacol. Physiol.* **6**(3), 301-316 (1979).
5. Das, B.C., Sarkar, C., and Karanth, S.K. Effects of administration of nicorandil or bimakalim prior to and during ischemia or reperfusion on survival rate, ischemia/reperfusion-induced arrhythmias and infarct size in anesthetized rabbits. *Naunyn-Schmiedeberg's Arch. Pharmacol.* **364**(5), 383-396 (2001).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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