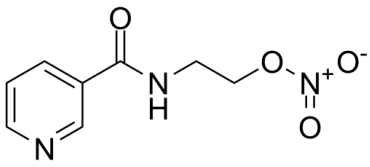
Data Sheet

Product Name:	Nicorandil
Cat. No.:	CS-2383
CAS No.:	65141-46-0
Molecular Formula:	C8H9N3O4
Molecular Weight:	211.17
Target:	Potassium Channel
Pathway:	Membrane Transporter/Ion Channel
Solubility:	DMSO : ≥ 33 mg/mL (156.27 mM)



BIOLOGICAL ACTIVITY:

Nicorandil (SG-75) is potassium channel activator. IC50 & Target: Potassium Channel[1]. **In Vitro:** Nicorandil (SG-75) is a vasodilatory drug used to treat angina. Nicorandil (SG-75) stimulates guanylate cyclase to increase formation of cyclic GMP (cGMP). cGMP activates protein kinase G (PKG) which phosphorylates and inhibits GTPase RhoA and decreases Rho-kinase activity. Reduced Rho-kinase activity permits an increase in myosin phosphatase activity, decreasing the calcium sensitivity of the smooth muscle. PKG also activates the sarcolemma calcium pump to remove activating calcium. PKG acts on K+ channels to promote K+ efflux and the ensuing hyperpolarization inhibits voltage-gated calcium channels. Overall, this leads to relaxation of the smooth muscle and coronary vasodilation[1][2].

References:

[1]. Nakae, I., et al., Effects of intravenous nicorandil on coronary circulation in humans: plasma concentration and action mechanism. J Cardiovasc Pharmacol, 2000. 35(6): p. 919-25.

[2]. Sauzeau, V., et al., Cyclic GMP-dependent protein kinase signaling pathway inhibits RhoA-induced Ca2+ sensitization of contraction in vascular smooth muscle. J Biol Chem, 2000. 275(28): p. 21722-9.

CAIndexNames:

3-Pyridinecarboxamide, N-[2-(nitrooxy)ethyl]-

SMILES:

O=C(C1=CC=CN=C1)NCCO[N+]([O-])=O

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