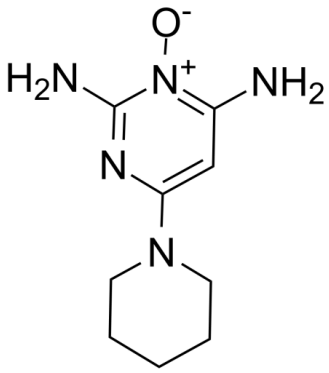
Data Sheet

Product Name:	Minoxidil
Cat. No.:	CS-1867
CAS No.:	38304-91-5
Molecular Formula:	C9H15N5O
Molecular Weight:	209.25
Target:	Potassium Channel
Pathway:	Membrane Transporter/Ion Channel
Solubility:	Ethanol : 8.33 mg/mL (39.81 mM; Need ultrasonic); DMSO : 4.6 mg/mL (21.98 mM; Need ultrasonic and warming)



BIOLOGICAL ACTIVITY:

Minoxidil (U10858) is an **ATP-sensitive potassium (K_{ATP}) channel** opener, a potent oral antihypertensive agent and a peripheral vasodilator that promotes vasodilation also affects hair growth. Minoxidil is also a potent inhibitor of **soybean lipoxygenaseare** with an **IC_{50}** of 20 μM[1][2][3]. IC50 & Target: IC50: 20 μM (soybean lipoxygenaseare)[1]; ATP-sensitive potassium channel[2] **In Vitro:** Minoxidil (1-00 μM; 24 hours; RAMEC cells) treatment shows very low cytotoxicities in the whole area of concentrations examined (from 1 μM to 100 μM)[1]. **In Vivo:** Minoxidil (0.01 mmoL/kg body weight; intraperitoneal injection; for 3.5 hours; fisher 344 rats) treatment inhibits carrageenan-induced rat paw oedema with an inhibitory potency (49%)[1].

References:

[1]. Hadjipavlou-Litina D, et al. Synthesis and evaluation of the antioxidative potential of minoxidil-polyamine conjugates. Biochimie. 2013 Jul;95(7):1437-49. doi: 10.1016/j.biochi.2013.03.009. Epub 2013 Mar 28.

[2]. Davies GC, et al. Novel and established potassium channel openers stimulate hair growth in vitro: implications for their modes of action in hair follicles. J Invest Dermatol. 2005 Apr;124(4):686-94.

[3]. Cohen RL, et al. Direct effects of minoxidil on epidermal cells in culture. J Invest Dermatol. 1984 Jan;82(1):90-3.

CAIndexNames:

2,4-Pyrimidinediamine, 6-(1-piperidinyl)-, 3-oxide

SMILES:

NC1=NC(N2CCCCC2)=CC(N)=[N+]1[O-]

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