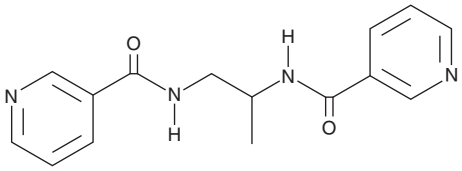
PRODUCT INFORMATION

Nicaraven

Item No. 23482

CAS Registry No.:	79455-30-4
Formal Name:	N,N'-(1-methyl-1,2-ethanediyl)*bis*-3-pyridinecarboxamide
MF:	$C_{15}H_{16}N_4O_2$
FW:	284.3
Purity:	≥98%
UV/Vis.:	λ_{max}: 212, 263 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



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

Laboratory Procedures

Nicaraven is supplied as a crystalline solid. A stock solution may be made by dissolving the nicaraven in the solvent of choice, which should be purged with an inert gas. Nicaraven is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of nicaraven in these solvents is approximately 2, 10, and 5 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of nicaraven can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of nicaraven in PBS, pH 7.2, is approximately 2 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Nicaraven is an antioxidant that exhibits hydroxyl radical scavenging activity *in vitro*.[1] Nicaraven (1-3 mg/kg per min, i.v.) reduces occurrence of chronic cerebral vasospasms in a dose-dependent manner in a canine model of subarachnoid hemorrhage. In a canine model of warm hepatic ischemia and reperfusion injury, nicaraven (2 mg/kg per min, i.v.) reduces liver enzyme release and inhibits lipid peroxidation and neutrophil infiltration in the liver.[2] Nicaraven (100 mg/kg per day, i.p.) also decreases plasma levels of the inflammatory cytokines IL-6 and TNF-α and the urinary levels of 8-oxo-2'-deoxyguanosine, a marker of DNA oxidation, in a mouse model of radiation-induced injury.[3]

References

1. Asano, T., Sasaki, T., Koide, T., *et al.* Experimental evaluation of the beneficial effect of an antioxidant on cerebral vasospasm. *Neurol. Res.* **6(1-2)**, 49-53 (1984).
2. Yokota, R., Fukai, M., Shimamura, T., *et al.* A novel hydroxyl radical scavenger, nicaraven, protects the liver from warm ischemia and reperfusion injury. *Surgery* **127(6)**, 661-669 (2000).
3. Kawakatsu, M., Urata, Y., Imai, R., *et al.* Nicaraven attenuates radiation-induced injury in hematopoietic stem/progenitor cells in mice. *PLoS Biol.* **8(3)**, e60023 (2013).

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