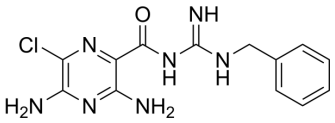
Benzamil

Cat. No.:	HY-B1546
CAS No.:	2898-76-2
Molecular Formula:	$C_{13}H_{14}ClN_7O$
Molecular Weight:	319.75
Target:	Na+/Ca2+ Exchanger; Sodium Channel
Pathway:	Membrane Transporter/Ion Channel
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Benzamil (Benzylamiloride), an Amiloride analogue, is a Na^+/Ca^{2+} exchanger (NCX) inhibitor (IC_{50}~100 nM). Benzamil also is a non-selective Deg/epithelial sodium channels (ENaC) blocker, and can potentiate myogenic vasoconstriction. Benzamil inhibits TRPP3-mediated Ca^{2+}-activated currents, with an IC_{50} of 1.1 μM[1][2][3].
In Vitro	Benzamil (Benzylamiloride) inhibits neuronal and heterologously expressed small conductance Ca^{2+}-activated K^{2+} channels [4]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Benzamil (Benzylamiloride) (0.7 mg/kg/day; s.c.) treated stroke-prone spontaneously hypertensive rats (SHRSP) survived, on average, until 16.1 weeks of age in SHRSP rats[5]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Fischer KG, et al. Characterization of a Na(+)-Ca(2+) exchanger in podocytes. Nephrol Dial Transplant. 2002 Oct;17(10):1742-50.

[2]. Wang X, et al. Effects of amiloride, benzamil, and alterations in extracellular Na+ on the rat afferent arteriole and its myogenic response. Am J Physiol Renal Physiol. 2008 Jul;295(1):F272-82.

[3]. Dai XQ, et al. Inhibition of TRPP3 channel by amiloride and analogs. Mol Pharmacol. 2007 Dec;72(6):1576-85.

[4]. Castañeda MS, et al. Benzamil inhibits neuronal and heterologously expressed small conductance Ca2+-activated K+channels. Neuropharmacology. 2019 Nov 1;158:107738.

[5]. Teiwes J, et al. Epithelial sodium channel inhibition in cardiovascular disease. A potential role for amiloride. Am J Hypertens. 2007 Jan;20(1):109-17.

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