Web: www.taiclone.com
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Bumetanide

Catalog No: tcsc1821

Available Sizes

Size: 1g

Size: 5g

Specifications

CAS No:
28395-03-1

Formula:
$C_{17}H_{20}N_2O_5S$

Pathway:
Membrane Transporter/Ion Channel

Target:
NKCC

Purity / Grade:
>98%

Solubility:
DMS : ≥ 100 mg/mL (274.41 mM); H2O :

Alternative Names:
Ro 10-6338;PF 1593

Observed Molecular Weight:
364.42

Product Description

Bumetanide(Ro 10-6338; PF 1593) is an inhibitor of Na(+)-K(+)-2Cl(-) co-transporter (NKCC) with an IC50 of 0.6 uM.

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IC50 Value: 0.6 uM [1]

Target: NKCC (Na-K-Cl cotransporter)

in vitro: Cultured chick cardiac cells possess a Na+K+Cl-co-transport system that is inhibited by the \"loop diuretics\" bumetanide (IC50 = 0.6 microM). The K0.5 values for Cl- and Na+ activation of thebumetanide-sensitive 86Rb+ uptake are 59 mM and 40mM respectively. Bumetanide also inhibits a 22Na+ uptake component that is suppressed when external Cl- or K+ are substituted by impermeant ions. The ratio of bumetanide-sensitive 86Rb+ to 22Na+ uptake is close to 1. The cardiac Na+/K+/Cl- cotransport is a major uptake pathway for Na+ and K+ [1]. Bumetanide inhibits ouabain-resistant 86Rb(K+) influx with IC50of 0.1, 5.0, and 0.05 microM for J774.2, CT2 and J7H1 macrophages, respectively [2].

in vivo:Intraperitoneal injection of 50 or 100 mg bumetanide/kg body weight resulted in an acute and transient hyperglycaemia. Pretreatment with 240 mg probenecid/kg body weight reduced the diuretic effect but potentiated the hyperglycaemic effect of bumetanide (50 mg/kg body weight). The glucose tolerance was impaired, and there was an elevated serum glucose and glucose/insulin ratio 2 h after a single injection of bumetanide (100 mg/kg body weight) [3].