Product Datasheet

Sodium?Dichloroacetate (orb1222512)

Catalog Number	orb1222512
Category	Small Molecules

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Description

Sodium Dichloroacetate, also known as CPC-211; DCA; X-11S, is a Pyruvate dehydrogenase kinase inhibitor potentially for the treatment of myocardia ischemia, ischemic. Sodium dichloroacetate also exhibits anti-leukemic activity in B-chronic lymphocytic leukemia (B-CLL) and synergizes with the p53 activator Nutlin-3. Sodium dichloroacetate (DCA) reduces apoptosis in colorectal tumor hypoxia.(In Vitro):Sodium dichloroacetate increases ROS generation in mitochondria. Sodium dichloroacetate affects cell growth and viability through the ROS production increase derived from the promotion of oxidative metabolism. The effects of Sodium dichloroacetate on multiple myeloma cell viability, cell cycle arrest, and apoptotic cell death were associated with pyruvate dehydrogenase kinases (PDK) inhibition, restored pyruvate dehydrogenase (PDH) activity, and the promotion of oxidative metabolism in association with increased intracellular ROS production which depends on the Sodium dichloroacetate dose. The Sodium dichloroacetate effects cooperated with C I inhibition promoting the oxidative stress in rat VM-M3 glioblastoma cells. Increased ROS levels in Sodium dichloroacetate-treated cancer cells are related to the induction of apoptosis associated with the increased cytochrome c expression. Sodium dichloroacetate causes ROS-dependent T-cell differentiation.\n(In Vivo):The NKCC1 RNA expression levels in Sodium dichloroacetate-treated gonad-intact and castrated males are significantly decreased, and no such effect is determined in the gonad-intact and castrated female Sodium dichloroacetate-treated rats.A single Sodium dichloroacetate dose causes a significantly higher 24 h diuresis in Wistar male rats, and the increased diuresis is related to NKCC2 inhibition. The NKCC2 is more abundant in kidneys of intact females compared to intact males, with a greater transporter density in Sprague-Dawley female rats.The oral Sodium dichloroacetate bioavailability in na ve male rats dosed 5, 20 and 100 mg/kg is significantly lower than in GSTζ-depleted ones (10%, 13%, 81% and 31%, 75%, 100%, respectively). The liver extraction of Sodium dichloroacetate in the GSTζ-depleted rats has linear kinetics, but it decreases with the metabolism saturation at higher doses.

Target

Microtubule/Tubulin

Purity

>98% (HPLC)

MW

150.92

Target Areas

PDK

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Solubility (25°C)	In Vitro: H2O : 100 mg/mL (662.60 mM)
CAS Number	2156-56-1
Formula	$C_2HCl_2NaO_2$
SMILES	C(C(=O)[O-])(Cl)Cl.[Na+]
Chemical Name	Sodium Dichloroacetate
Storage	Storage temperature: -20°C. Stability: ≥ 2 years
Note	For research use only
Expiration Date	12 months from date of receipt.

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