Web: www.taiclone.com
Tel: +886-2-2735-9682
Email: order@taiclone.com

CFTR (inh) -172

Catalog No: tcsc3185

Available Sizes

Size: 5mg

Size: 10mg

Size: 50mg

Specifications

CAS No:
307510-92-5

Formula:
$C_{18}H_{10}F_3NO_3S_2$

Pathway:
Membrane Transporter/Ion Channel

Target:
CFTR

Purity / Grade:
>98%

Solubility:
DMSO : 50 mg/mL (122.13 mM; Need ultrasonic)

Alternative Names:
CFTR Inhibitor-172;CFTRinh-172

Observed Molecular Weight:
409.4

Product Description

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CFTR(inh)-172 is a potent and selective blocker of the **CFTR** chloride channel; reversibly inhibited CFTR short-circuit current in less than 2 minutes with a $\mathbf{K_i}$ of 300 nM.

IC50 & Target: Ki: 300 nM (CFTR)[1]

In Vitro: Inhibition by CFTR(inh)-172 is complete in approximately 10 minutes ($t_{1/2}$=4 minutes) and is reversed after ishout with $t_{1/2}$ approximately 5 minutes. CFTRinh-172 is nontoxic to FRT cells after 24 hours at concentrations up to 100 μM[1]. CFTR(inh)-172 does not alter CFTR unitary conductance (8 pS), but reduces open probability by > 90% with K_i=0.6 μM. This effect is due to increased mean channel closed time without changing mean channel open time. The K_i values for inhibition of Cl^- current in wild-type, G551D, and G1349D CFTR are about 0.5 μM; however, K_i is significantly reduced to 0.2 μM for vF508 CFTR[2].

In Vivo: A single intraperitoneal injection of CFTR(inh)-172 (250 μg/kg) in mice reduces by more than 90% cholera toxin–induced fluid secretion in the small intestine over 6 hours. CFTR(inh)-172 is nontoxic at high concentrations in mouse models. CFTRinh-172 significantly reduces fluid secretion to that in saline control loops, whereas an inactive CFTRinh-172 analog does not inhibit fluid secretion[1].