

# 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

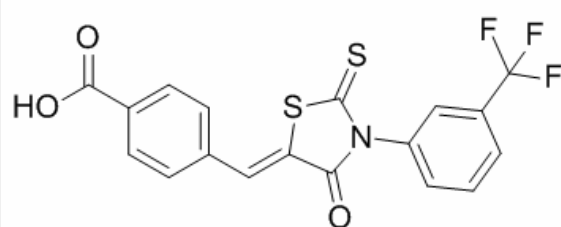
## Product Description

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 **K<sub>i</sub>** of 300 nM.

IC50 & Target: K<sub>i</sub>: 300 nM (CFTR)<sup>[1]</sup>

**In Vitro:** Inhibition by CFTR(inh)-172 is complete in approximately 10 minutes ( $t_{1/2}$ =4 minutes) and is reversed after washout with  $t_{1/2}$  approximately 5 minutes. CFTRinh-172 is nontoxic to FRT cells after 24 hours at concentrations up to 100  $\mu$ M<sup>[1]</sup>. CFTR(inh)-172 does not alter CFTR unitary conductance (8 pS), but reduces open probability by > 90% with K<sub>i</sub>=0.6  $\mu$ M. This effect is due to increased mean channel closed time without changing mean channel open time. The K<sub>i</sub> values for inhibition of Cl<sup>-</sup> current in wild-type, G551D, and G1349D CFTR are about 0.5  $\mu$ M; however, K<sub>i</sub> is significantly reduced to 0.2  $\mu$ M for  $\nu$ F508 CFTR<sup>[2]</sup>.

**In Vivo:** A single intraperitoneal injection of CFTR(inh)-172 (250  $\mu$ g/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<sup>[1]</sup>.



All products are for RESEARCH USE ONLY. Not for diagnostic & therapeutic purposes!