

KI696

Catalog No: tcsc0020903



Available Sizes

Size: 1mg

Size: 5mg

Size: 10mg

Size: 25mg

Size: 50mg

Size: 100mg



Specifications

CAS No:

1799974-70-1

Formula:

$C_{28}H_{30}N_4O_6S$

Pathway:

NF-κB

Target:

Keap1-Nrf2

Purity / Grade:

>98%

Solubility:

10 mM in DMSO

Observed Molecular Weight:

550.63

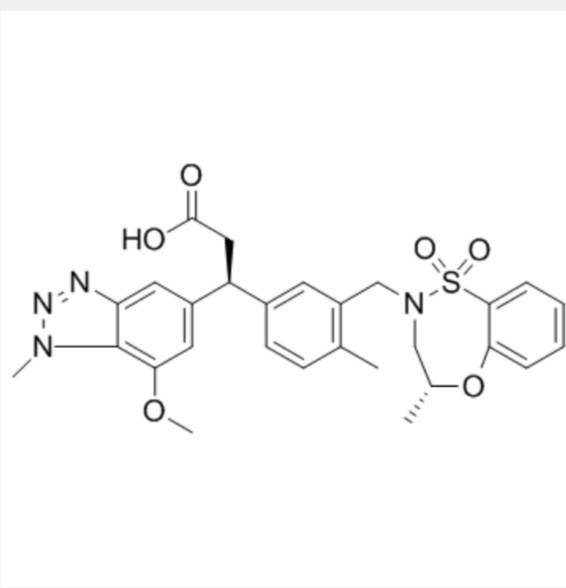
Product Description

KI696 is a high affinity probe that disrupts the **Keap1/NRF2** interaction.

IC50 & Target: Target: Keap1-NRF2^[1]

In Vitro: KI696 (compound 7) exhibits very high affinity for the KEAP1 Kelch domain (ITC $K_d=1.3$ nM with the exception of the organic anion transporting polypeptide 1B1 (OATP1B1) ($IC_{50}=2.5$ μ M), the bile salt export pump BSEP ($IC_{50}=4.0$ μ M), and the phosphodiesterase PDE3A ($IC_{50}=10$ μ M), no significant cross-reactivity is observed. No cytotoxicity is observed towards BEAS-2B cells with KI696 at concentrations up to 10 μ M. KI696 increases NRF2 Nuclear Translocation in Normal Human Bronchial Epithelial cells. KI696 increases mRNA expression of the NRF2-dependent genes NQO1 and GCLM in NHBE cells transfected with the non-targeting siRNA, while NRF2 gene silencing significantly decreases compound activity. KI696 increases NQO1 Activity in an NRF2-Dependent Manner. Treatment with tBHP clearly has a detrimental effect on cell health and appearance while pre-treatment of cells with 1 μ M KI696 before the exposure to tBHP maintained cell morphology consistent with the DMSO control. KI696 Induces the Expression of NRF2-Regulated Genes in COPD patient-derived bronchial epithelial cells^[1].

In Vivo: KI696 induces the expression of each of the *Nqo1*, *Ho-1*, *Txnrd1*, *Srxn1*, *Gsta3*, *Gclc* genes in a dose-dependent manner, with maximum increases over vehicle controls of 37-(*Nqo1*), 17-(*Ho-1*), 9-(*Txnrd1*), 28-(*Srxn1*), 15-(*Gsta3*) and 13-fold (*Gclc*) occurring at the 50 μ mol/kg dose. EC_{50} values are 44.0, 25.7, 42.6, 33.8, 28.4, and 44.1 μ mol/kg, respectively, giving an average EC_{50} value of 36.4 ± 3.4 μ mol/kg. KI696 attenuates ozone-induced pulmonary inflammation. KI696 restores ozone-induced depletion of lung GSH levels. KI696 is administered to rats at 10, 35 and 50 μ mol/kg by IV infusion, resulting in steady state compound concentrations in the blood of 407 ± 44 nM, 946 ± 50 nM and 1437 ± 186 nM, respectively, over the 6 hour infusion period. Exposure to ozone 24 hours post-dose produces a significant depletion in lung levels of the anti-oxidant molecule, GSH, which is restored by KI696 in a dose-dependent manner^[1].



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