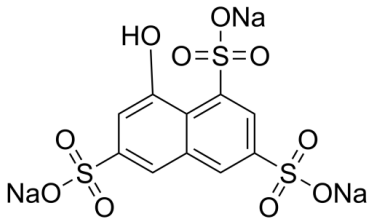
Data Sheet

Product Name:	ζ-Stat (trisodium)
Cat. No.:	CS-0134051
CAS No.:	31894-34-5
Molecular Formula:	$C_{10}H_5Na_3O_{10}S_3$
Molecular Weight:	450.31
Target:	Apoptosis; PKC
Pathway:	Apoptosis; Epigenetics; TGF-beta/Smad
Solubility:	H_2O : 12.5 mg/mL (ultrasonic;warming;heat to 60°C)



BIOLOGICAL ACTIVITY:

ζ-Stat trisodium (NSC37044 trisodium) is a specific and atypical **PKC-ζ** inhibitor, with an **IC_{50}** of 5 μM. ζ-Stat trisodium can reduce melanoma cell lines proliferation and induce apoptosis, and has antitumor activity in vitro[1][2]. IC50 & Target: IC50: 5 μM (PKC-ζ)[1] ***In Vitro:*** ζ-Stat (0.1-20 μM) shows only 13% inhibition on PKC-ι at 20 μM, but shows a significant inhibition on PKC-ζ as 51% at 5 μM level[1].

ζ-Stat (0.1-10 μM; 3 d) significantly decreases cell proliferation of SK-MEL-2 and MeWo upon increasing the concentrations[1].

ζ-Stat (7 or 10 μM; 24-72 h) and 5-FU in combination is able to decrease the viability of LoVo CRC cells by more than 75%[2].

ζ-Stat (5 μM; 3 d) shows a significant diminution of phosphorylated, total PKC-ζ, Bcl-2 and PARP levels, and increases Caspase-3 and cleaved-PARP levels in SK-MEL-2 and MeWo cells[1].

ζ-Stat (5 μM; 1-10 h) does not show significant cytotoxicity on MEL-F-NEO, SK-MEL-2 and MeWo cells[1].

References:

[1]. Ratnayake WS, et, al. Oncogenic PKC-ι activates Vimentin during epithelial-mesenchymal transition in melanoma; a study based on PKC-ι and PKC-ζ specific inhibitors. Cell Adh Migr. 2018; 12(5):447-463.

[2]. Islam SMA, et, al. Atypical Protein Kinase-C inhibitors exhibit a synergistic effect in facilitating DNA damaging effect of 5-fluorouracil in colorectal cancer cells. Biomed Pharmacother. 2020 Jan; 121:109665.

CAIndexNames:

1,3,6-Naphthalenetrisulfonic acid, 8-hydroxy-, sodium salt (1:3)

SMILES:

O=S(C1=C2C(O)=CC(S(=O)(O[Na])=O)=CC2=CC(S(=O)(O[Na])=O)=C1)(O[Na])=O

Caution: Product has not been fully validated for medical applications. For research use only.

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