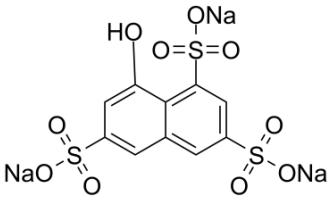
ζ-Stat trisodium

Cat. No.:	HY-123979A
CAS No.:	31894-34-5
Molecular Formula:	$C_{10}H_5Na_3O_{10}S_3$
Molecular Weight:	450.31
Target:	PKC; Apoptosis
Pathway:	Epigenetics; TGF-beta/Smad; Apoptosis
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	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].
IC_{50} & Target	aPKC-ζ 5 μM (IC_{50})

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].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Proliferation Assay[1]

Cell Line:	MEL-F-NEO, SK-MEL-2 and MeWo cells
Concentration:	0.1, 0.5, 1, 2.5, 5, 7.5, 10 μM
Incubation Time:	3 days
Result:	Decreased proliferation by 47.7% for 5 μM in SK-MEL-2 cells and by 50.6% for 5 μM in MeWo cells. Showed significant inhibitions on MEL-F-NEO cells 19.3% ($P \leq 0.05$) at 10 μM.

Western Blot Analysis[1]

Cell Line:	SK-MEL-2 and MeWo cells
Concentration:	5 μM
Incubation Time:	3 days
Result:	Decreased phosphorylated and total PKC-ζ levels.

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.

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