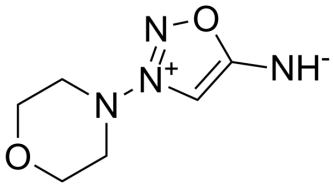
3-Morpholinosydnonimine

Cat. No.:	HY-126849
CAS No.:	33876-97-0
Molecular Formula:	$C_6H_{10}N_4O_2$
Molecular Weight:	170.17
Target:	MDM-2/p53
Pathway:	Apoptosis
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

3-Morpholinosydnonimine (SIN-1; Linsidomine) is a spontaneous ROS/RNS generator and a peroxynitrite donor. 3-Morpholinosydnonimine inhibits hypertrophic chondrocytes activity and induces necrosis. 3-Morpholinosydnonimine induces p53-dependent apoptosis, induces p53 accumulation and activates MAPK phosphorylation[1][2].

In Vitro

3-Morpholinosydnonimine (1, 3, and 5 mM; 24 h) inhibits hypertrophic chondrocytes viability[1].
3-Morpholinosydnonimine (3 mM, and 5 mM; 24 h) induces necrosis death in hypertrophic chondrocytes, as well as inducing apoptosis death in both ATDC5 cells and C28/I2 cells[1].
3-Morpholinosydnonimine (50 μM, 200 μM, and 400 μM; 6 h) induces a rapid increase in expression of p53 and induce p53-dependent apoptosis in neuron-rich mouse telencephalic cells[2].
3-Morpholinosydnonimine (200 μM; 6 h) induces p53 accumulation through p21(ras) activation[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[1]

Cell Line:	Hypertrophic chondrocytes
Concentration:	0 mM, 1 mM, 3 mM, and 5 mM
Incubation Time:	0 h, 4 h, 8 h, 12 h, and 24 h
Result:	Decreased the cellular viability by 30%, 50%, and 80% respectively at 1, 3, and 5 mM.

Western Blot Analysis[2]

Cell Line:	Mouse primary neural cells
Concentration:	200 μM
Incubation Time:	6 h
Result:	Induced p53 accumulation.

REFERENCES

[1]. He Y, et al. 3-morpholinosydnonimine (SIN-1)-induced oxidative stress leads to necrosis in hypertrophic chondrocytes in vitro. Biomed Pharmacother. 2018 Oct;106:1696-1704.

[2]. Kaji T, et al. 3-Morpholinosydnonimine hydrochloride induces p53-dependent apoptosis in murine primary neural cells: a critical role for p21(ras)-MAPK-p19(ARF) pathway. Nitric Oxide. 2002 Mar;6(2):125-34.

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