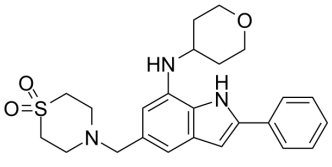
NecroX-7

Cat. No.:	HY-124750
CAS No.:	1120332-55-9
Molecular Formula:	$C_{24}H_{29}N_3O_3S$
Molecular Weight:	439.57
Target:	TNF Receptor; Interleukin Related; Toll-like Receptor (TLR); Reactive Oxygen Species
Pathway:	Apoptosis; Immunology/Inflammation; Metabolic Enzyme/Protease; NF-κB
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	NecroX-7 is a potent free radical scavenger and a HMGB1 (high-mobility group box 1) inhibitor. NecroX-7 can be used as an antidote to acetaminophen toxicity. NecroX-7 exerts a protective effect by preventing the release of HMGB1 in ischemia/reperfusion injury. NecroX-7 inhibits the HMGB1-induced release of TNF and IL-6, as well as the expression of TLR-4 and receptor for advanced glycation end products. NecroX-7 can be used graft-versus-host disease (GVHD) research[1].
IC_{50} & Target	IL-6 TLR4

In Vitro

NecroX-7 (0-40 μM, 3-4 d) suppresses activated or proliferating T cells without causing apoptosis[1].
NecroX-7 (0-40 μM) markedly reduces HMGB1 levels in a dose-dependent manner[1].
NecroX-7 inhibits formation of mitochondria-specific ROS/reactive nitrogen species in H9C2 cells and hepatocytes after induction by tert-butyl hydroperoxide or doxorubicin[1].
NecroX-7 increased regulatory T cell numbers, which may be associated with regulation of differentiation signals independent of HMGB1[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Proliferation Assay[1]

Cell Line:	CD4 T cells
Concentration:	0, 0.625, 1.25, 2.5, 5, 10, 20, and 40 μM
Incubation Time:	3-4 d
Result:	Showed a marked reduction in splenocyte proliferation, in a dose-dependent manner. Modulated alloreactive T cell responses.

In Vivo

NecroX-7 (0-0.3 mg/kg, IV, once injection at 2-d intervals, for 2 weeks) significantly attenuates GVHD-related mortality and inhibits severe tissue damage[1].
NecroX-7 protects mice against lethal GVHD by reciprocal regulation of regulatory T/Th1 cells, attenuating systemic HMGB1 accumulation and inhibiting HMGB1-mediated inflammatory response[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Female BALB/c and C57BL/6 mice (Eight-week-old, with GVHD)[1]

Dosage:	0.03, 0.1, and 0.3 mg/kg
Administration:	IV, once injection at 2-d intervals, for 2 weeks
Result:	Observed statistically significant prolonged survival at doses ≥0.1 mg/kg: 30–60% of mice in these treatment groups survived for >50 d. Significantly improved clinical signs and prolonged survival, and the mice showed a reduction in clinical manifestations of acute GVHD, including weight loss, hunched posture, diarrhea, and ruffled fur.

REFERENCES

[1]. Im KI, et al. The Free Radical Scavenger NecroX-7 Attenuates Acute Graft-versus-Host Disease via Reciprocal Regulation of Th1/Regulatory T Cells and Inhibition of HMGB1 Release. J Immunol. 2015 Jun 1;194(11):5223-32.

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