

# Product data sheet



MedKoo Cat#: 561380 Name: NecroX-5 mesylate CAS: 1383718-29-3 (mesylate) Chemical Formula: C <sub>27</sub> H <sub>39</sub> N <sub>3</sub> O <sub>9</sub> S <sub>3</sub> Molecular Weight: 645.801	
Product supplied as: Powder	
Purity (by HPLC): ≥ 98%	
Shipping conditions: Ambient temperature	
Storage conditions: Powder: -20°C 3 years; 4°C 2 years. In solvent: -80°C 3 months; -20°C 2 weeks.	

## 1. Product description:

NecroX-5 is an inhibitor of necrosis/necroptosis. NecroX-5 has been shown to scavenge mitochondrial reactive oxygen and nitrogen species, and thus preventing necrotic cell death against various kinds of oxidative stress in several tissues, including the brain.

## 2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under “QC And Documents” section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

## 3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMSO	170.0	263.24

## 4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	1.55 mL	7.74 mL	15.48 mL
5 mM	0.31 mL	1.55 mL	3.10 mL
10 mM	0.15 mL	0.77 mL	1.55 mL
50 mM	0.03 mL	0.15 mL	0.31 mL

## 5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of “Calculator”

## 6. Recommended literature which reported protocols for in vitro and in vivo study

### In vitro study

1. Min L, Shu-Li Z, Feng Y, Han H, Shao-Jun L, Sheng-Xiong T, Jia-Yu T, Xiang-Zhi F, Dan F. NecroX-5 ameliorates bleomycin-induced pulmonary fibrosis via inhibiting NLRP3-mediated epithelial-mesenchymal transition. *Respir Res.* 2022 May 20;23(1):128. doi: 10.1186/s12931-022-02044-3. PMID: 35596212; PMCID: PMC9121617.
2. Moon GT, Lee JH, Jeong SH, Jin SW, Park YM. NecroX-5 Can Suppress Melanoma Metastasis by Reducing the Expression of Rho-Family GTPases. *J Clin Med.* 2021 Jun 25;10(13):2790. doi: 10.3390/jcm10132790. PMID: 34201921; PMCID: PMC8267632.

### In vivo study

1. Fang XZ, Ge YL, Chen ZY, Shu HQ, Yang YY, Yu Y, Zhou XJ, Chen L, Cui SN, Wang YX, Yao SL, Shang Y. NecroX-5 alleviate lipopolysaccharide-induced acute respiratory distress syndrome by inhibiting TXNIP/NLRP3 and NF-κB. *Int Immunopharmacol.* 2020 Apr;81:106257. doi: 10.1016/j.intimp.2020.106257. Epub 2020 Feb 7. PMID: 32044659.
2. Thu VT, Kim HK, Long le T, Thuy TT, Huy NQ, Kim SH, Kim N, Ko KS, Rhee BD, Han J. NecroX-5 exerts anti-inflammatory and anti-fibrotic effects via modulation of the TNFα/Dcn/TGFβ1/Smad2 pathway in hypoxia/reoxygenation-treated rat hearts. *Korean J Physiol Pharmacol.* 2016 May;20(3):305-14. doi: 10.4196/kjpp.2016.20.3.305. Epub 2016 Apr 26. PMID: 27162485; PMCID: PMC4860373.

## 7. Bioactivity

Biological target:

NecroX-5 is an inhibitor of necrosis/necroptosis.

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## In vitro activity

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NX-5 (10  $\mu$ M and 20  $\mu$ M) treatment significantly reduced melanoma cell migration ( $p < 0.01$ ). Additionally, NX-5 (20  $\mu$ M) treatment significantly decreased the mRNA and protein expression levels of Cdc42, Rac1, and RhoA in melanoma cells compared with the untreated group ( $p < 0.001$  and  $p < 0.05$ , respectively).

Reference: J Clin Med. 2021 Jun 25;10(13):2790. <https://pubmed.ncbi.nlm.nih.gov/34201921/>

## In vivo activity

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This study utilized HR (hypoxia/reoxygenation)-treated rat hearts and lipopolysaccharide (LPS)-treated H9C2 culture cells in the presence or absence of NecroX-5 (10  $\mu$ mol/L) treatment as experimental models. Addition of NecroX-5 significantly increased decorin (Dcn) expression levels in HR-treated hearts. In contrast, expression of transforming growth factor beta 1 (TGF $\beta$ 1) and Smad2 phosphorylation (pSmad2) was strongly attenuated in NecroX-5-treated hearts.

Reference: Korean J Physiol Pharmacol. 2016 May;20(3):305-14. <https://pubmed.ncbi.nlm.nih.gov/27162485/>

*Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.*