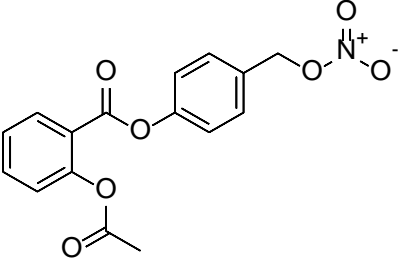


Product data sheet



MedKoo Cat#: 574815 Name: NCX-4040 CAS: 287118-97-2 Chemical Formula: C ₁₆ H ₁₃ NO ₇ Exact Mass: 331.0692 Molecular Weight: 331.28	
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:

NCX-4040 is an NO-donating aspirin and anti-inflammatory that blocks inflammatory mediator production in isolated human monocytes, decreases COX-2 expression, and disrupts proteasome-mediated degradation of κ B- α . NCX-4040 also acts as an antiproliferative in HCT116 colon cancer cells and sensitizes drug-resistant ovarian tumor cells to cisplatin.

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	100.0	301.86

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.02 mL	15.09 mL	30.19 mL
5 mM	0.60 mL	3.02 mL	6.04 mL
10 mM	0.30 mL	1.51 mL	3.02 mL
50 mM	0.06 mL	0.30 mL	0.60 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. Chinnapaka S, Zheng G, Chen A, Munirathinam G. Nitro aspirin (NCX4040) induces apoptosis in PC3 metastatic prostate cancer cells via hydrogen peroxide (H₂O₂)-mediated oxidative stress. *Free Radic Biol Med.* 2019 Nov 1;143:494-509. doi: 10.1016/j.freeradbiomed.2019.08.025. Epub 2019 Aug 22. PMID: 31446057; PMCID: PMC6848783.

2. Ricciotti E, Dovizio M, Di Francesco L, Anzellotti P, Salvatore T, Di Francesco A, Sciulli MG, Pistritto G, Monopoli A, Patrignani P. NCX 4040, a nitric oxide-donating aspirin, exerts anti-inflammatory effects through inhibition of I kappa B-alpha degradation in human monocytes. *J Immunol.* 2010 Feb 15;184(4):2140-7. doi: 10.4049/jimmunol.0903107. Epub 2010 Jan 11. PMID: 20065114.

In vivo study

1. Tesei A, Ulivi P, Fabbri F, Rosetti M, Leonetti C, Scarsella M, Zupi G, Amadori D, Bolla M, Zoli W. In vitro and in vivo evaluation of NCX 4040 cytotoxic activity in human colon cancer cell lines. *J Transl Med.* 2005 Feb 3;3(1):7. doi: 10.1186/1479-5876-3-7. PMID: 15691389; PMCID: PMC549525.

7. Bioactivity

Biological target:

NCX4040 (NO-Aspirin), a non-steroidal anti-inflammatory drug (NSAID), is a nitric oxide (NO) releasing form of Aspirin.

Product data sheet



In vitro activity

Data revealed that NCX4040 is more potent than its parent compound aspirin or NO releasing compound DETA NONOate. NCX4040 significantly induced hydrogen peroxide formation with ensuing oxidative stress and mitochondrial depolarization resulting in lipid peroxidation, cell cycle arrest, inhibition of colony growth and induction of apoptosis in PC3 cells. Moreover, NCX4040 inhibited migration potential of PC3 cells by depolymerizing F-actin and promoting anoikis.

Reference: Free Radic Biol Med. 2019 Nov 1;143:494-509. <https://pubmed.ncbi.nlm.nih.gov/31446057/>

In vivo activity

In the in vivo experiments, tumor-bearing mice were treated with NCX 4040, five times a week, for six consecutive weeks. In in vivo studies, both NCX 4040 and its parental compound were administered per os. NCX 4040 induced a 40% reduction in tumor weight. Conversely, aspirin did not influence tumor growth at all.

Reference: J Transl Med. 2005 Feb 3;3(1):7. <https://pubmed.ncbi.nlm.nih.gov/15691389/>

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.