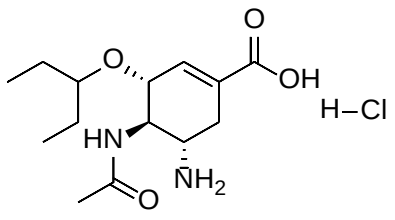
Product data sheet

MedKoo Cat#: 581033 Name: Oseltamivir carboxylate HCl CAS: 1415963-60-8 (HCl) Chemical Formula: $C_{14}H_{25}ClN_2O_4$ Molecular Weight: 320.814	
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:
Oseltamivir carboxylate is an active metabolite of oseltamivir phosphate (Tamiflu).

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
TBD	TBD	TBD

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.12 mL	15.59 mL	31.17 mL
5 mM	0.62 mL	3.12 mL	6.23 mL
10 mM	0.31 mL	1.56 mL	3.12 mL
50 mM	0.06 mL	0.31 mL	0.62 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. Yilmaz I, Akalan H, Oznam K, Karaarslan N, Yasar Sirin D, Ozbek H. Does oseltamivir protect human chondrocyte and nucleus pulposus cells from degeneration by inhibiting senescence and proinflammation mediated by the NLRP3 inflammasome and NF-κB? Eur Rev Med Pharmacol Sci. 2022 Jul;26(13):4816-4827. doi: 10.26355/eurrev_202207_29207. PMID: 35856374.
2. de Oliveira JT, Santos AL, Gomes C, Barros R, Ribeiro C, Mendes N, de Matos AJ, Vasconcelos MH, Oliveira MJ, Reis CA, Gärtner F. Anti-influenza neuraminidase inhibitor oseltamivir phosphate induces canine mammary cancer cell aggressiveness. PLoS One. 2015 Apr 7;10(4):e0121590. doi: 10.1371/journal.pone.0121590. PMID: 25850034; PMCID: PMC4388625.

In vivo study

1. Seldeslachts L, Vanderbeke L, Fremau A, Reséndiz-Sharpe A, Jacobs C, Laeveren B, Ostyn T, Naesens L, Brock M, Van De Veerdonk FL, Humblet-Baron S, Verbeken E, Lagrou K, Wauters J, Vande Velde G. Early oseltamivir reduces risk for influenza-associated aspergillosis in a double-hit murine model. Virulence. 2021 Dec;12(1):2493-2508. doi: 10.1080/21505594.2021.1974327. PMID: 34546839; PMCID: PMC8923074.
2. Takahashi E, Sawabuchi T, Kimoto T, Sakai S, Kido H. Lactobacillus delbrueckii ssp. bulgaricus OLL1073R-1 feeding enhances humoral immune responses, which are suppressed by the antiviral neuraminidase inhibitor oseltamivir in influenza A virus-infected mice. J Dairy Sci. 2019 Nov;102(11):9559-9569. doi: 10.3168/jds.2019-16268. Epub 2019 Sep 5. PMID: 31495632.

7. Bioactivity
Biological target:

Oseltamivir carboxylate is an active metabolite of oseltamivir phosphate (Tamiflu).

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In vitro activity

Human lumbar IVD (n = 8) tissues were isolated for annulus fibrosus (AF) and nucleus pulposus (NP) primary cell cultures, and human tibial and femoral cartilage tissues (n = 8) were isolated for primary chondrocyte cultures. In the oseltamivir-treated groups, cell proliferation decreased in both AF/NP cell and chondrocyte cultures obtained from IVD cartilage tissues. After Western blotting analysis, changes were observed in the protein expressions of HIF-1α, IL-1β, NF-κB, and the NLRP3 inflammasome in both AF/NP cells and chondrocytes. The results were statistically significant ($p < 0.05$).

Reference: Eur Rev Med Pharmacol Sci. 2022 Jul;26(13):4816-4827. https://pubmed.ncbi.nlm.nih.gov/35856374/

In vivo activity

Immunocompetent mice received intranasal instillation influenza A or PBS followed by orotracheal inoculation with Aspergillus fumigatus 4 days later. Oseltamivir treatment or placebo was started at day 0, day 2, or day 4. Early oseltamivir treatment prevented severe influenza pneumonia and mitigated the development of IPA and associated mortality. A time-dependent treatment effect was consistently observed with imaging, molecular, and pathological analyses.

Reference: Virulence. 2021 Dec;12(1):2493-2508. https://pubmed.ncbi.nlm.nih.gov/34546839/