

Product data sheet



MedKoo Cat#: 326739 Name: Dynasore CAS: 304448-55-3 Chemical Formula: C ₁₈ H ₁₄ N ₂ O ₄ Exact Mass: 322.0954 Molecular Weight: 322.32		
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:

Dynasore is a dynamin inhibitor (IC₅₀ = 15 μM). dynasore inhibits bone resorption by rapidly disrupting actin rings of osteoclasts. Dynasore disrupts trafficking of herpes simplex virus proteins. Dynasore enhances the formation of mitochondrial antiviral signalling aggregates and endocytosis-independent NF-κB activation. Dynasore protects mitochondria and improves cardiac lusitropy in Langendorff perfused mouse heart. Dynasore impairs cholesterol trafficking and sterol-sensitive genes transcription in human HeLa cells and macrophages.

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
DMF	25.0	77.56
DMF:PBS (pH 7.2) (1:1)	0.5	1.55
DMSO	39.68	123.12

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.10 mL	15.51 mL	31.03 mL
5 mM	0.62 mL	3.10 mL	6.21 mL
10 mM	0.31 mL	1.55 mL	3.10 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. Mues MB, Cheshenko N, Wilson DW, Gunther-Cummins L, Herold BC. Dynasore disrupts trafficking of herpes simplex virus proteins. J Virol. 2015 Jul;89(13):6673-84. doi: 10.1128/JVI.00636-15. Epub 2015 Apr 15. PMID: 25878109; PMCID: PMC4468502.
2. Macia E, Ehrlich M, Massol R, Boucrot E, Brunner C, Kirchhausen T. Dynasore, a cell-permeable inhibitor of dynamin. Dev Cell. 2006 Jun;10(6):839-50. doi: 10.1016/j.devcel.2006.04.002. PMID: 16740485.

In vivo study

1. Li G, Shen F, Fan Z, Wang Y, Kong X, Yu D, Zhi X, Lv G, Cao Y. Dynasore Improves Motor Function Recovery via Inhibition of Neuronal Apoptosis and Astrocytic Proliferation after Spinal Cord Injury in Rats. Mol Neurobiol. 2017 Nov;54(9):7471-7482. doi: 10.1007/s12035-016-0252-1. Epub 2016 Nov 7. PMID: 27822712.

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2. Gao D, Zhang L, Dhillon R, Hong TT, Shaw RM, Zhu J. Dynasore protects mitochondria and improves cardiac lusitropy in Langendorff perfused mouse heart. PLoS One. 2013 Apr 15;8(4):e60967. doi: 10.1371/journal.pone.0060967. PMID: 23596510; PMCID: PMC3626591.

7. Bioactivity

Biological target:

Dynasore is a cell-permeable Dynamin inhibitor with an IC_{50} of 15 μ M.

In vitro activity

Dynasore inhibited HSV-1 and HSV-2 infection of human epithelial and neuronal cells, including primary genital tract cells and human fetal neurons and astrocytes.

Reference: J Virol. 2015 Jul;89(13):6673-84. <https://pubmed.ncbi.nlm.nih.gov/25878109/>

In vivo activity

Results of motor functional test indicated that dynasore ameliorated the motor dysfunction greatly at 3, 7, and 10 days after SCI in rats ($P < 0.05$). To this study's knowledge, this is the first study to indicate that dynasore significantly enhances motor function which may be by inhibiting the activation of neuronal mitochondrial apoptotic pathway and astrocytic proliferation in rats after SCI.

Reference: Mol Neurobiol. 2017 Nov;54(9):7471-7482. <https://pubmed.ncbi.nlm.nih.gov/27822712/>

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.