

Product data sheet



MedKoo Cat#: 532113 Name: LM10 CAS: 1316695-35-8 Chemical Formula: C ₁₁ H ₈ FN ₅ Exact Mass: 229.0764 Molecular Weight: 229.2184	
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:

LM10 is a selective tryptophan 2,3-dioxygenase (TDO) inhibitor (IC₅₀ values are 0.62 and 2 μM for human and mouse TDO, respectively). LM10 exhibits selectivity for TDO over IDO, MAO-A, MAO-B, and a panel of receptors and transporters. LM10 reduces growth of TDO-expressing P815 mastocytoma tumors in mice.

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	1.0	4.36
DMSO	32.23	140.61
Ethanol	4.29	18.72

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	4.36 mL	21.81 mL	43.63 mL
5 mM	0.87 mL	4.36 mL	8.73 mL
10 mM	0.44 mL	2.18 mL	4.36 mL
50 mM	0.09 mL	0.44 mL	0.87 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. Zhao Y, Tao F, Jiang J, Chen L, Du J, Cheng X, He Q, Zhong S, Chen W, Wu X, Ou R, Xu Y, Tang KF. Tryptophan 2, 3-dioxygenase promotes proliferation, migration and invasion of ovarian cancer cells. *Mol Med Rep.* 2021 Jun;23(6):445. doi: 10.3892/mmr.2021.12084. Epub 2021 Apr 13. PMID: 33846800; PMCID: PMC8060793.

2. Thurgur H, Penny J, Pinteaux E. Endothelial cell activation by interleukin-1 and extracellular matrix laminin-10 occurs via the YAP signalling pathway. *J Neuroimmunol.* 2022 Dec 15;373:577993. doi: 10.1016/j.jneuroim.2022.577993. Epub 2022 Oct 28. PMID: 36327619.

In vivo study

1. Pilotte L, Larrieu P, Stroobant V, Colau D, Dolusic E, Frédérick R, De Plaen E, Uyttenhove C, Wouters J, Masereel B, Van den Eynde BJ. Reversal of tumoral immune resistance by inhibition of tryptophan 2,3-dioxygenase. *Proc Natl Acad Sci U S A.* 2012 Feb 14;109(7):2497-502. doi: 10.1073/pnas.1113873109. Epub 2012 Jan 30. PMID: 22308364; PMCID: PMC3289319.

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7. Bioactivity

Biological target:

LM10 is a potent inhibitor of tryptophan 2,3-dioxygenase (TDO).

In vitro activity

This study investigated the signalling mechanisms regulated by LM-10 in human brain endothelial cell line hCMEC/D3 in response to interleukin(IL)-1beta(β) in vitro. LM-10 promoted endothelial proliferation and repair of an endothelial monolayer after scratch injury, and upregulated IL-1 β -induced ICAM-1 and VCAM-1 expression.

Reference: J Neuroimmunol. 2022 Dec 15;373:577993. <https://pubmed.ncbi.nlm.nih.gov/36327619/>

In vivo activity

To determine whether systemic treatment with LM10 was able to promote rejection of TDO-expressing tumors, this study immunized and challenged mice as above and administered LM10 in the drinking water (Fig. 2B). This study observed that systemic treatment of immunized mice with LM10 (160 mg/kg/day) prevented the growth of TDO-expressing P815 tumor cells. This was true for both TDO-transfected clones. Surprisingly, LM10 treatment also promoted better rejection of control clone P815B c11, which does not express TDO.

Reference: Proc Natl Acad Sci U S A. 2012 Feb 14;109(7):2497-502. <https://pubmed.ncbi.nlm.nih.gov/22308364/>

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.