

Product data sheet



MedKoo Cat#: 326823 Name: Madrasin CAS#: 374913-63-0 Chemical Formula: C ₁₆ H ₁₇ N ₅ O ₂ Exact Mass: 311.1382 Molecular Weight: 311.345	
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:

Madrasin is a potent and cell penetrant splicing inhibitor that interferes with the early stages of spliceosome assembly. Madrasin stalls spliceosome assembly at the A complex.

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	1.5	4.82

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.21 mL	16.06 mL	32.12 mL
5 mM	0.64 mL	3.21 mL	6.42 mL
10 mM	0.32 mL	1.61 mL	3.21 mL
50 mM	0.06 mL	0.32 mL	0.64 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

- Hou S, Qu D, Li Y, Zhu B, Liang D, Wei X, Tang W, Zhang Q, Hao J, Guo W, Wang W, Zhao S, Wang Q, Azam S, Khan M, Zhao H, Zhang L, Lei H. XAB2 depletion induces intron retention in POLR2A to impair global transcription and promote cellular senescence. *Nucleic Acids Res.* 2019 Sep 5;47(15):8239-8254. doi: 10.1093/nar/gkz532. PMID: 31216022; PMCID: PMC6735682.
- Pawellek A, McElroy S, Samatov T, Mitchell L, Woodland A, Ryder U, Gray D, Lührmann R, Lamond AI. Identification of small molecule inhibitors of pre-mRNA splicing. *J Biol Chem.* 2014 Dec 12;289(50):34683-98. doi: 10.1074/jbc.M114.590976. Epub 2014 Oct 3. Erratum in: *J Biol Chem.* 2015 Mar 6;290(10):6005. PMID: 25281741; PMCID: PMC4263873.

In vivo study

TBD

7. Bioactivity

Biological target:

Madrasin (DDD00107587) is a pre-mRNA splicing inhibitor that prevents formation of both splicing intermediates and products in vitro and interferes with one or more early steps in the pathway of spliceosome assembly.

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In vitro activity

To further determine the outcome of splicing defects in POLR2A, HeLa cells were treated with splicing inhibitor madrasin. RT-PCR and western blot revealed that POLR2A expression was down-regulated at RNA and protein levels (Figure3A–D). The inhibitory effect of madrasin on splicing was verified by RT-PCR as the treatment led to substantial increase of unspliced transcripts (Figure3E3E and F). Consistently, IF staining also supported that madrasin treatment resulted in POLR2A down-regulation (Figure3G). In addition, nascent RNA was markedly decreased after madrasin treatment by EU incorporation assay (Figure3H). Similarly, the expression of POLR2A in 293T or MDA-MB-231 cells was decreased at both RNA and protein levels when treated with madrasin (Supplementary Figure S7). These data together supported that splicing defects in POLR2A induced by XAB2 depletion was the major mechanism for decreased expression of POLR2A at RNA level.

Reference: Nucleic Acids Res. 2019 Sep 5; 47(15): 8239–8254. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6735682/>

In vivo activity

TBD

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.