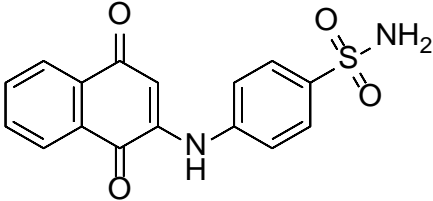


Product data sheet



MedKoo Cat#: 555752 Name: ML329 CAS: 19992-50-8 Chemical Formula: C ₁₆ H ₁₂ N ₂ O ₄ S Exact Mass: 328.0518 Molecular Weight: 328.342	
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:

ML-329 is an inhibitor of the microphthalmia-associated transcription factor (MITF) pathway with an IC₅₀ value of 1.2 μM for promoter activity of the MITF target gene TRPM-1. ML329 showed specific activity against the MITF-dependent cells, primary melanocytes but no effect on the viability in A375 cells. ML329 reduced the expression of multiple MITF target genes, including pigment-related genes and the cell cycle regulator CDK2. As a tool compound, ML329 will be useful in elucidating the role of MITF in melanocyte lineage development and in melanoma disease progression.

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	12.5	38.07
DMSO	30.33	92.38
DMSO:PBS (pH 7.2) (1:1)	0.5	1.52
Ethanol	0.1	0.30

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.05 mL	15.23 mL	30.46 mL
5 mM	0.61 mL	3.05 mL	6.09 mL
10 mM	0.30 mL	1.52 mL	3.05 mL
50 mM	0.06 mL	0.30 mL	0.61 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. Proaño-Pérez E, Ollé L, Guo Y, Aparicio C, Guerrero M, Muñoz-Cano R, Martin M. MITF Downregulation Induces Death in Human Mast Cell Leukemia Cells and Impairs IgE-Dependent Degranulation. *Int J Mol Sci.* 2023 Feb 9;24(4):3515. doi: 10.3390/ijms24043515. PMID: 36834926; PMCID: PMC9961600.
2. Faloon PW, Bennion M, Weiner WS, Smith RA, Wurst J, Weiwer M, Hartland C, Mosher CM, Johnston S, Porubsky P, Neuenswander B, Dandapani S, Munoz B, Schoenen FJ, Metkar S, Haq R, Fisher DE, Aubé J, Palmer M, Schreiber SL. A Small Molecule Inhibitor of the MITF Molecular Pathway. 2012 Dec 13 [updated 2014 Sep 18]. In: Probe Reports from the NIH Molecular Libraries Program [Internet]. Bethesda (MD): National Center for Biotechnology Information (US); 2010-. PMID: 24027801.

In vivo study

Product data sheet



1. Lyu L, Zhou X, Zhang M, Liu L, Liu T, Niu H, Wu Y, Liang C, Han X, Zhang L. Lactobacillus derived from breast milk facilitates intestinal development in IUGR rats. J Appl Microbiol. 2022 Aug;133(2):503-514. doi: 10.1111/jam.15576. Epub 2022 Apr 27. PMID: 35429125.

7. Bioactivity

Biological target:

ML329 is a microphthalmia-associated transcription factor (MITF) inhibitor, which inhibits TRPM-1 promoter activity with an IC₅₀ of 1.2 μM.

In vitro activity

ML329 was tested in two MITF-dependent melanoma cell viability assays, SK-MEL-5 and MALME-3M plus a MITF-independent cell line, A375. ML329 showed specific activity against the MITF-dependent cells, primary melanocytes but no effect on the viability in A375 cells. ML329 reduced the expression of multiple MITF target genes, including pigment-related genes and the cell cycle regulator CDK2.

Reference: Probe Reports from the NIH Molecular Libraries Program [Internet]. 2012 Dec 13 [updated 2014 Sep 18].

<https://pubmed.ncbi.nlm.nih.gov/24027801/>

In vivo activity

The effect of potential probiotics derived from breast milk on development of intrauterine growth retardation (IUGR) newborn rats' intestine was investigated. The proliferation and differentiation stimulating effects of ML-329 and ML-446 on IECs in the jejunum, ileum, and colon were mediated by activating the Wnt pathway with increased expression of wnt, lrp5, and β-catenin genes and accumulation of β-catenin, and by downregulating the Notch signalling pathway with decreased expression of the activated notch protein.

Reference: J Appl Microbiol. 2022 Aug;133(2):503-514. <https://pubmed.ncbi.nlm.nih.gov/35429125/>

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.