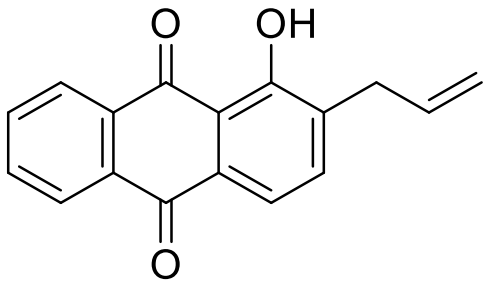
Product data sheet

MedKoo Cat#: 561746 Name: R162 CAS: 64302-87-0 Chemical Formula: $C_{17}H_{12}O_3$ Exact Mass: 264.0786 Molecular Weight: 264.28	
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.

Product description:
R162 is an inhibitor of GDH activity and represses glioma cell growth.

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	13.21	50

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.78 mL	18.92 mL	37.84 mL
5 mM	0.76 mL	3.78 mL	7.57 mL
10 mM	0.38 mL	1.89 mL	3.78 mL
50 mM	0.08 mL	0.38 mL	0.76 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

To be determined

In vivo study

1. Wang Q, Wu M, Li H, Rao X, Ao L, Wang H, Yao L, Wang X, Hong X, Wang J, Aa J, Sun M, Wang G, Liu J, Zhou F. Therapeutic targeting of glutamate dehydrogenase 1 that links metabolic reprogramming and Snail-mediated epithelial-mesenchymal transition in drug-resistant lung cancer. Pharmacol Res. 2022 Nov;185:106490. doi: 10.1016/j.phrs.2022.106490. Epub 2022 Oct 8. PMID: 36216131.
2. Jin L, Chun J, Pan C, Kumar A, Zhang G, Ha Y, Li D, Alesi GN, Kang Y, Zhou L, Yu WM, Magliocca KR, Khuri FR, Qu CK, Metallo C, Owonikoko TK, Kang S. The PLAG1-GDH1 Axis Promotes Anoikis Resistance and Tumor Metastasis through CamKK2-AMPK Signaling in LKB1-Deficient Lung Cancer. Mol Cell. 2018 Jan 4;69(1):87-99.e7. doi: 10.1016/j.molcel.2017.11.025. Epub 2017 Dec 14. PMID: 29249655; PMCID: PMC5777230.
3. Jin L, Li D, Alesi GN, Fan J, Kang HB, Lu Z, Boggon TJ, Jin P, Yi H, Wright ER, Duong D, Seyfried NT, Egnatchik R, DeBerardinis RJ, Magliocca KR, He C, Arellano ML, Khoury HJ, Shin DM, Khuri FR, Kang S. Glutamate dehydrogenase 1 signals through antioxidant glutathione peroxidase 1 to regulate redox homeostasis and tumor growth. Cancer Cell. 2015 Feb 9;27(2):257-70. doi: 10.1016/j.ccell.2014.12.006. PMID: 25670081; PMCID: PMC4325424.

7. Bioactivity
Biological target:

Product data sheet

R162 is an inhibitor of GDH1 (IC50 = 23 μM).1 It decreases intracellular fumarate levels and increases the production of mitochondrial ROS in human H1299 lung and MDA-MB-231 breast cancer cells. R162 inhibits proliferation in several human cancer cell lines, including lung, breast, and leukemia cells.

In vitro activity

To be determined

In vivo activity

The successful application of R162 to overcome both acquired resistance and epithelial-mesenchymal transition-induced metastasis in vivo identified GLUD1 as a promising and druggable therapeutic target for malignant progression of non-small-cell lung cancer.

Reference: Pharmacol Res. 2022 Nov;185:106490. https://pubmed.ncbi.nlm.nih.gov/36216131/