

Product data sheet



MedKoo Cat#: 599120 Name: Racemethionine CAS: 59-51-8 Chemical Formula: C ₅ H ₁₁ NO ₂ S Exact Mass: 149.051 Molecular Weight: 149.21		
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:

Racemethionine, also known as DL-Methionine, is an essential amino acid containing sulfur with oxidative stress defense effects.

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
Water	33.33	223.38

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	6.70 mL	33.51 mL	67.02 mL
5 mM	1.34 mL	6.70 mL	13.40 mL
10 mM	0.67 mL	3.35 mL	6.70 mL
50 mM	0.13 mL	0.67 mL	1.34 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. Pinel K, Heraud C, Morin G, Dias K, Marcé A, Beauclair L, Fontagné-Dicharry S, Masagounder K, Klünemann M, Seiliez I, Beaumatin F. Are the Main Methionine Sources Equivalent? A Focus on DL-Methionine and DL-Methionine Hydroxy Analog Reveals Differences on Rainbow Trout Hepatic Cell Lines Functions. *Int J Mol Sci.* 2022 Mar 8;23(6):2935. doi: 10.3390/ijms23062935. PMID: 35328356; PMCID: PMC8954868.
2. Patterson JA, Kung L Jr. Metabolism of DL-methionine and methionine analogs by rumen microorganisms. *J Dairy Sci.* 1988 Dec;71(12):3292-301. doi: 10.3168/jds.S0022-0302(88)79934-8. PMID: 3235731.

In vivo study

1. Prabhu VV. A comparative clinical trial evaluating efficacy and safety of fixed dose combination of nimesulide (100 mg) and racemethionine (50 mg) (namsafe) versus reference drug (nimesulide) and other NSAIDs in the treatment of osteoarthritis. *J Indian Med Assoc.* 2008 Jun;106(6):402-4. PMID: 18839654.
2. Tang X, Yang Y, Shi Y, Le G. Comparative in vivo antioxidant capacity of DL-2-hydroxy-4-methylthiobutanoic acid (HMTBA) and DL-methionine in male mice fed a high-fat diet. *J Sci Food Agric.* 2011 Sep;91(12):2166-72. doi: 10.1002/jsfa.4434. Epub 2011 May 12. PMID: 21567412.

7. Bioactivity

Biological target:

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Racemethionine is an essential amino acid containing sulfur with oxidative stress defense effects. Racemethionine can be used for animal natural feed. It also kills *H. rostochiensis* on potato plants.

In vitro activity

This study revealed that Racemethionine had a better absorption and metabolization than DL-Methionine Hydroxy Analog in fish cell lines. These results suggest that both synthetic methionine sources are not biologically equivalent, suggesting similar in vivo effects in rainbow trout liver and, therefore, questioning the DL-Methionine Hydroxy Analog efficiencies in other rainbow trout tissues.

Reference: Int J Mol Sci. 2022 Mar 8;23(6):2935. <https://pubmed.ncbi.nlm.nih.gov/35328356/>

In vivo activity

Sixty consecutive patients of either sex, above the age of 18 years with symptoms of osteo-arthritis participated in this open, randomised, comparative clinical trial carried out over 3 months. The combination treatment of nimesulide and racemethionine was found to be better for the long-term treatment of osteo-arthritis in patients.

Reference: J Indian Med Assoc. 2008 Jun;106(6):402-4. <https://pubmed.ncbi.nlm.nih.gov/18839654/>

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.