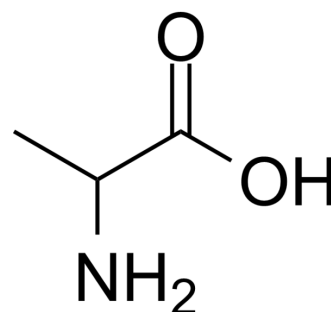


## DL-Alanine

Cat. No.:	HY-N2362		
CAS No.:	302-72-7		
Molecular Formula:	C <sub>3</sub> H <sub>7</sub> NO <sub>2</sub>		
Molecular Weight:	89.09		
Target:	Endogenous Metabolite		
Pathway:	Metabolic Enzyme/Protease		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



### SOLVENT & SOLUBILITY

#### In Vitro

H<sub>2</sub>O : 50 mg/mL (561.23 mM; Need ultrasonic)

DMSO : < 1 mg/mL (ultrasonic;warming;heat to 80°C) (insoluble or slightly soluble)

	Solvent Concentration	Mass	1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM		11.2246 mL	56.1230 mL	112.2460 mL
	5 mM		2.2449 mL	11.2246 mL	22.4492 mL
	10 mM		1.1225 mL	5.6123 mL	11.2246 mL

Please refer to the solubility information to select the appropriate solvent.

### BIOLOGICAL ACTIVITY

#### Description

DL-alanine, an orally active amino acid, is the racemic compound of L- and D-alanine. DL-alanine is employed both as a reducing and a capping agent, used with silver nitrate aqueous solutions for the production of nanoparticles. DL-alanine can be used for the research of transition metals chelation, such as Cu(II), Zn(II), Cd(II). DL-alanine, a sweetener, is classed together with glycine and sodium saccharin. DL-alanine plays a key role in the glucose-alanine cycle between tissues and liver<sup>[1][2][3][4][5][6]</sup>.

#### IC<sub>50</sub> & Target

Human Endogenous Metabolite

#### In Vivo

DL-alanine (2500-10000 mg/kg, i.g., daily from 6 to 15 days) has no obvious teratogenicity in SD rats<sup>[7]</sup>.  
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

### REFERENCES

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- [1]. Amrallah AH, et al. Mixed ligand complexes of benzimidazole and pyrimidine hydroxy azo dyes with some transition metals and glycine, dl-alanine or dl-leucine. *Talanta*. 1998 Aug;46(4):491-500.
- [2]. Eder José Guidelli, et, al. Synthesis of silver nanoparticles using dl-alanine for ESR dosimetry applications. *Radiation Physics and Chemistry*. Volume 81, Issue 3, 2012: Pages 301-307.
- [3]. Rashid M, et al. Biosynthesis of Self-Dispersed Silver Colloidal Particles Using the Aqueous Extract of *P. peruviana* for Sensing dl-Alanine[J]. *Isrn Nanotechnology*, 2014, 2014:1-7.
- [4]. Tapper DN, et al. Taste stimuli: a behavioral categorization. *Science*. 1968 Aug 16;161(3842):708-10.
- [5]. Yamaguchi M, et al. Terahertz absorption spectra of L-, D-, and DL-alanine and their application to determination of enantiometric composition[J]. *Applied Physics Letters*, 2005, 86(5): 053903.
- [6]. Yamamoto T, et al. Gustatory reaction time to various sweeteners in human adults. *Physiol Behav*. 1985 Sep;35(3):411-5.
- [7]. Wang Y, et al. Study on teratogenicity of DL-alanine in SD rats. *Journal of Food Safety and Quality*. 2021, 2095-0381.
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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