Aspartame

Cat. No.: HY-B0361

CAS No.: 22839-47-0

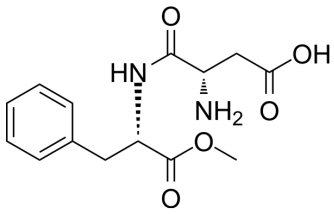
Molecular Formula: $C_{14}H_{18}N_2O_5$

Molecular Weight: 294.3

Target: Others

Pathway: Others

Storage: Sealed storage, away from moisture
Powder -80°C 2 years
-20°C 1 year
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 25 mg/mL (84.95 mM; Need ultrasonic)
H_2O : 5 mg/mL (16.99 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.3979 mL	16.9895 mL	33.9789 mL
	5 mM	0.6796 mL	3.3979 mL	6.7958 mL
	10 mM	0.3398 mL	1.6989 mL	3.3979 mL

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

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 18.33 mg/mL (62.28 mM); Clear solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (8.49 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (8.49 mM); Clear solution
4. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (8.49 mM); Clear solution

BIOLOGICAL ACTIVITY

Description Aspartame (SC-18862) is a methyl ester of a dipeptide. Aspartame can be used as a synthetic nonnutritive sweetener[1][2].

In Vitro Aspartame is composed of phenylalanine (an important role in neurotransmitter regulation), aspartic acid (an excitatory neurotransmitter in the central nervous system) and methanol[2].

	MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Aspartame (4000 mg/kg bw/day; p.o.) shows no adverse effect in acute, subacute and chronic toxicity studies with aspartame, and its decomposition products, conducted in mice, rats, hamsters and dogs[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Magnuson, B.A., et al., Aspartame: a safety evaluation based on current use levels, regulations, and toxicological and epidemiological studies. Crit Rev Toxicol, 2007. 37(8): p. 629-727.

[2]. Humphries, P., E. Pretorius, and H. Naude, Direct and indirect cellular effects of aspartame on the brain. Eur J Clin Nutr, 2008. 62(4): p. 451-62.

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