L-Homocystine

Cat. No.: HY-W011690

CAS No.: 626-72-2

Molecular Formula: $C_8H_{16}N_2O_4S_2$

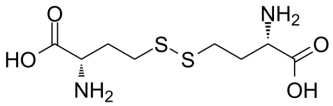
Molecular Weight: 268.35

Target: Endogenous Metabolite

Pathway: Metabolic Enzyme/Protease

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

H_2O : 1.67 mg/mL (6.22 mM; ultrasonic and warming and adjust pH to 2 with HCl and heat to 60°C)
DMSO : 1 mg/mL (3.73 mM; ultrasonic and adjust pH to 5 with HCl)

Preparing Stock Solutions

Mass / Solvent / Concentration	1 mg	5 mg	10 mg
1 mM	3.7265 mL	18.6324 mL	37.2648 mL
5 mM	0.7453 mL	3.7265 mL	7.4530 mL
10 mM	---	---	---

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

BIOLOGICAL ACTIVITY

Description

L-Homocystine is the oxidized member of the L-homocysteine. Homocysteine is a pro-thrombotic factor, vasodilation impairing agent, pro-inflammatory factor and endoplasmatic reticulum-stress inducer used to study cardiovascular disease mechanisms.

IC_{50} & Target

Human Endogenous Metabolite

In Vivo

A single or multiple doses of L-Homocystine administered to mice during organogenesis can aggravate the developmental disturbances caused by a single dose of VPA administered on GD 8. Whereas, VPA lowers significantly plasma FA and vitamin B12 concentrations, it has no direct impact on the homocysteine concentrations. Therefore, it is proposed that high levels of homocysteine disturb the FA, vitamin B12, and possibly methionine metabolism thus providing a favorable situation for VPA to interfere with the development of susceptible embryos[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Animal Administration [1]

Mice[1]

Groups of mice are first injected on GD 8 with a single dose of 75 mg/kg of L-Homocystine or an equal volume of saline. One half of the L-Homocystine-treated animals then receive a single dose of 600 mg/kg of VPA ((H-HoCys-OH)2+VPA group), while the other half are injected with a proportionate volume of saline (L-Homocystine+saline group). In the other experiment, mice are treated with a daily dose of 75 mg/kg of L-Homocystine or a proportionate volume of saline starting from GD 5 and continue through GD 10. One half of the L-Homocystine-treated animals also have a single exposure to 600 mg/kg of VPA (L-Homocystine+VPA group) or a proportionate volume of saline (L-Homocystine+saline group) on GD 8. The total volume of fluid injected corresponded to the body weight and does not exceed 0.45 mL[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Padmanabhan R, et al. Effect of maternal exposure to homocystine on sodium valproate-induced neural tube defects in the mouse embryos. Eur J Nutr. 2006 Sep;45(6):311-9

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