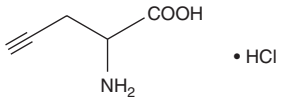
PRODUCT INFORMATION

DL-Propargyl Glycine (hydrochloride)

Item No. 10010948

CAS Registry No.: 16900-57-5
Formal Name: 2-amino-4-pentynoic acid, monohydrochloride
Synonym: PAG
MF: $C_5H_7NO_2$ • HCl
FW: 149.6
Purity: ≥95%
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

PAG (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the PAG (hydrochloride) in an organic solvent purged with an inert gas. PAG (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of PAG (hydrochloride) in these solvents is approximately 20 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of PAG (hydrochloride) can be prepared by directly dissolving the crystalline compound in the aqueous buffer of choice. The solubility of PAG (hydrochloride) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Hydrogen sulphide (H_2S), a naturally occurring gasotransmitter, is a potent vasodilator and pro-inflammatory mediator.[1] DL-Propargylglycine is an irreversible inhibitor of the H_2S synthesizing enzyme cystathionine-g-lyase (CSE). PAG blocks H_2S synthesis activity in rat liver preparations with an IC_{50} value of 55 µM and abolishes the rise in plasma H_2S in anaesthetized rats induced with hemorrhagic shock.[2] At concentrations ranging from 25-100 mg/kg, PAG can reduce H_2S-associated inflammation in rodent models of pancreatitis, oedema, and endotoxemia.[3-5]

References

1. Li, L. and Moore, P.K. Putative biological roles of hydrogen sulfide in health and disease: A breath of not so fresh air? *Trends Pharmacol. Sci.* **29(2)**, 84-90 (2007).
2. Mok, Y.-Y.P., Atan, M.S.B.M., Ping, C.Y., *et al.* Role of hydrogen sulphide in haemorrhagic shock in the rat: Protective effect of inhibitors of hydrogen sulphide biosynthesis. *Br. J. Pharmacol.* **143**, 881-889 (2004).
3. Bhatia, M., Sidhapuriwala, J.N., Ng, S.W., *et al.* Pro-inflammatory effects of hydrogen sulphide on substance P in caerulein-induced acute pancreatitis. *J. Cell. Mol. Med.* **12(2)**, 580-590 (2008).
4. Bhatia, M., Sidhapuriwala, J., Moochhala, S.M. , *et al.* Hydrogen sulphide is a mediator of carrageenan-induced hindpaw oedema in the rat. *Br. J. Pharmacol.* **145**, 141-144 (2005).
5. Collin, M., Anuar, F.B.M., Murch, O., *et al.* Inhibition of endogenous hydrogen sulfide formation reduces the organ injury caused by endotoxemia. *Br. J. Pharmacol.* **146**, 498-505 (2005).

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