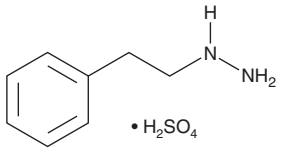
PRODUCT INFORMATION

Phenelzine (sulfate)

Item No. 23956

CAS Registry No.: 156-51-4
Formal Name: (2-phenylethyl)-hydrazine, monosulfate
Synonyms: NSC 170957, W-1544A
MF: $C_8H_{12}N_2 \bullet H_2SO_4$
FW: 234.3
Purity: ≥98%
Supplied as: A 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

Phenelzine (sulfate) is supplied as a solid. A stock solution may be made by dissolving the phenelzine (sulfate) in the solvent of choice, which should be purged with an inert gas. Phenelzine (sulfate) is slightly soluble in DMSO.

Phenelzine (sulfate) is sparingly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Description

Phenelzine is an inhibitor of monoamine oxidase (MAO; IC_{50} = 0.9 µM using rat brain mitochondrial preparations).[1] It potentiates the effects of tryptamine on isolated rat fundus (EC_{50} = 90 nM) and increases tryptamine toxicity in mice with LD_{50} values of 85 and 500 mg/kg in the presence and absence of phenelzine, respectively. Phenelzine (20 mg/kg) increases GABA, dopamine, serotonin (5-HT; Item No. 14332), and norepinephrine levels in the hippocampus and cortex of socially isolated rats and rats treated with the NMDA receptor antagonist (+)-MK-801 (Item No. 10009019).[2] It also increases 5-HT levels in the ventral horn of the spinal cord, improves gross motor ability in a rotarod test, and increases locomotor activity in an open field test in mice with experimental autoimmune encephalomyelitis when administered at a dose of 30 mg/kg.[3]

References

1. Maxwell, D.R., Gray, W.R., and Taylor, E.M. Relative activity of some inhibitors of mono-amine oxidase in potentiating the action of tryptamine in vitro and in vivo. *Br. J. Pharmacol. Chemother.* **17(3)**, 310-320 (1961).
2. Simpson, S.M., Hickey, A.J., Baker, G.B., *et al.* The antidepressant phenelzine enhances memory in the double Y-maze and increases GABA levels in the hippocampus and frontal cortex of rats. *Pharmacol. Biochem. Behav.* **102(1)**, 109-117 (2012).
3. Musgrave, T., Benson, C., Wong, G., *et al.* The MAO inhibitor phenelzine improves functional outcomes in mice with experimental autoimmune encephalomyelitis (EAE). *Brain Behav. Immun.* **25(8)**, 1677-1688 (2011).

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