

PRODUCT INFORMATION



Pyrithiamine (hydrobromide)

Item No. 19526

CAS Registry No.: 534-64-5

Formal Name: 1-[(4-amino-2-methyl-5-pyrimidinyl)methyl]-3-(2-hydroxyethyl)-2-methylpyridinium, bromide, monohydrobromide

MF: $C_{14}H_{19}N_4O \bullet HBr \bullet Br$

FW: 420.1

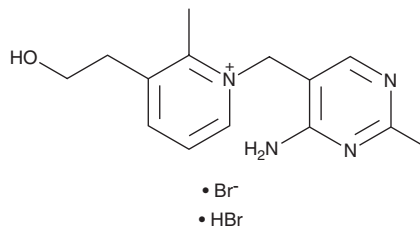
Purity: $\geq 95\%$

UV/Vis.: λ_{max} : 239, 273 nm

Supplied as: A solid

Storage: $-20^{\circ}C$

Stability: ≥ 4 years



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

Laboratory Procedures

Pyrithiamine (hydrobromide) is supplied as a solid. Aqueous solutions of pyrithiamine (hydrobromide) can be prepared by directly dissolving the solid in aqueous buffers. The solubility of pyrithiamine (hydrobromide) in PBS (pH 7.2) is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Pyrithiamine is the pyridine analog of thiamine that prevents growth of organisms that require intact thiamine.¹ It inhibits the growth of bacterial and fungal species at a pyrithiamine:thiamine ratio of 10:1 in growth media and induces symptoms of thiamine deficiency in mice at a dietary ratio of 3:1. These effects are reversible with addition of sufficient thiamine in all species. Pyrithiamine inhibits the formation of cocarboxylase from thiamine in chicken blood in a dose-dependent manner.² It has been used to induce thiamine deficiency in various disease models, including rat models of alcoholism and diencephalic amnesia, to study the effects of thiamine deficiency on disease pathology.^{3,4}

References

1. Woolley, D.W. and White, A.G.C. Selective reversible inhibition of microbial growth with pyrithiamine. *J. Exp. Med.* **78**(6), 489-497 (1943).
2. Woolley, D.W. An enzymatic study of the mode of action of pyrithiamine (neopyrithiamine). *J. Biol. Chem.* **191**(1), 43-54 (1951).
3. Vetreno, R.P., Anzalone, S.J., and Savage, L.M. Impaired, spared, and enhanced ACh efflux across the hippocampus and striatum in diencephalic amnesia is dependent on task demands. *Neurobiol. Learn Mem.* **90**(1), 237-244 (2008).
4. Zahr, N.M., Sullivan, E.V., Rohlfing, T., et al. Concomitants of alcoholism: Differential effects of thiamine deficiency, liver damage, and food deprivation on the rat brain in vivo. *Psychopharmacology (Berl)*. **233**(14), 2675-2686 (2016).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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