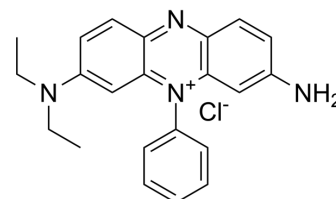


Methylene Violet 3RAX

Cat. No.:	HY-W130236
CAS No.:	4569-86-2
Molecular Formula:	C ₂₂ H ₂₃ ClN ₄
Molecular Weight:	378.9
Target:	Cholinesterase (ChE)
Pathway:	Neuronal Signaling
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Methylene Violet 3RAX is a phenazine dye to stain the mitochondria of cells. Methylene Violet 3RAX can change the molecular structure of DNA, undermine the module of DNA, and induce the generation of the reactive singlet oxygen. Methylene Violet 3RAX shows inhibition for human erythrocyte AChE and human plasma BChE with an K _i s of 1.58, 0.51 μM, respectively. Methylene Violet 3RAX has the potential for the research of potential photosensitizers for mitochondrial targeting action in PDT (photodynamic therapy) ^{[1][2]} .	
IC₅₀ & Target	BChE 0.51 μM (K _i)	AChE 1.58 μM (K _i)
In Vitro	Methylene Violet 3RAX shows antitumor activity by cutting off DNA strands in tumour cell ^[1] . Methylene Violet 3RAX (0-400 μM) significantly enhances cleavage of DNA with over 60% photocleavage activity towards DNA at 300 μM ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.	

REFERENCES

- [1]. Si Yao, et al. Methylene violet 3RAX-conjugated porphyrin for photodynamic therapy: synthesis, DNA photocleavage, and cell study. RSC Advances. 2022,12, 21004-21013.
- [2]. Onder S, et al. The kinetics of inhibition of human acetylcholinesterase and butyrylcholinesterase by methylene violet 3RAX. Chem Biol Interact. 2019 Dec 1;314:108845.

Caution: Product has not been fully validated for medical applications. For research use only.

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