# **PRODUCT** INFORMATION



TMPyP4 (tosylate)

Item No. 18474

CAS Registry No.:	36951-72-1	
Formal Name:	4,4',4'',4'''-(21H,23H-porphine-5,10,15,20-	ļ
	tetrayl)tetrakis[1-methyl-pyridinium],	
	4-methylbenzenesulfonate (1:4)	
Synonyms:	TMP-1363, TMPyP4 4-methylbenzenesulfonate	
MF:	$C_{44}H_{38}N_8 \bullet 4C_7H_7O_3S$	
FW:	1,363.6	
Purity:	≥95%	• 4CH <sub>3</sub> C <sub>6</sub> H <sub>4</sub> SO <sub>3</sub> <sup>-</sup>
UV/Vis.:	λ <sub>may</sub> : 219, 261, 423 nm	
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

TMPyP4 (tosylate) is supplied as a crystalline solid. Aqueous solutions of TMPyP4 (tosylate) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of TMPyP4 (tosylate) in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

# Description

TMPyP4 is a cationic porphyrin that intercalates into and stabilizes G-quadruplexes, which are formed by DNA and RNA sequences composed of blocks of guanine residues.<sup>1</sup> In this way, TMPyP4 inhibits telomerase activity (IC<sub>50</sub>  $\leq$  50  $\mu$ M), blocking the clonogenic growth and migration of cancer cells in culture and *in vivo*.<sup>2-4</sup> TMPyP4 also inhibits acetylcholinesterase at doses of 0.1 to 1.0 mM.<sup>5</sup>

# References

- 1. Fiel, R.J., Howard, J.C., Mark, E.H., et al. Interaction of DNA with a porphyrin ligand: Evidence for intercalation. Nucleic Acids Res. 6(9), 3093-3118 (1979).
- 2. Izbicka, E., Wheelhouse, R.T., Raymond, E., et al. Effects of cationic porphyrins as G-quadruplex interactive agents in human tumor cells. Cancer Res. 59, 639-644 (1999).
- Rapozzi, V., Zorzet, S., Zacchigna, M., et al. Anticancer activity of cationic porphyrins in melanoma 3. tumour-bearing mice and mechanistic in vitro studies. Mol. Cancer 13, 75 (2014).
- 4. Rha, S.Y., Izbicka, E., Lawrence, R., et al. Effect of telomere and telomerase interactive agents on human tumor and normal cell lines. Clin. Cancer Res. 6, 987-993 (2000).
- 5. Fujiwara, N., Mazzola, M., Cai, E., et al. TMPyP4, a stabilizer of nucleic acid secondary structure, is a novel acetylcholinesterase inhibitor. PLoS One 10(9), e0139167 (2015).

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

## SAFETY DATA

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.

# WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 11/01/2022

| NI+

# CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD ANN ARBOR, MI 48108 · USA PHONE: [800] 364-9897 [734] 971-3335 FAX: [734] 971-3640 CUSTSERV@CAYMANCHEM.COM WWW.CAYMANCHEM.COM