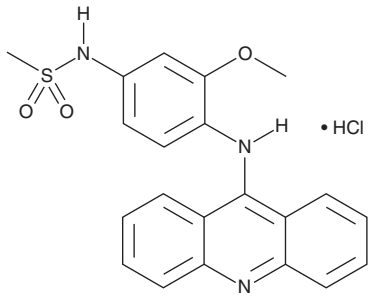
PRODUCT INFORMATION

Amsacrine (hydrochloride)

Item No. 22223

CAS Registry No.:	54301-15-4
Formal Name:	N-[4-(9-acridinylamino)-3-methoxyphenyl]-methanesulfonamide, monohydrochloride
Synonym:	AMSA, *m*-AMSA, NSC 141549
MF:	$C_{21}H_{19}N_3O_3S$ • HCl
FW:	429.9
Purity:	≥98%
UV/Vis.:	λ_{max}: 248, 265 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

Amsacrine (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the amsacrine (hydrochloride) in the solvent of choice, which should be purged with an inert gas. Amsacrine (hydrochloride) is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of amsacrine (hydrochloride) in these solvents is approximately 12 and 10 mg/ml, respectively.

Amsacrine (hydrochloride) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, amsacrine (hydrochloride) should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Amsacrine (hydrochloride) has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Amsacrine is a topoisomerase II poison.[1] It stimulates formation of a complex between DNA and topoisomerase II in which the DNA is cleaved and topoisomerase II remains covalently linked to the 5' end of the DNA cleavage products. Amsacrine also inhibits the DNA strand-passing activity of topoisomerase II at a concentration of 20 µg/ml. It reduces growth of LoVo human colorectal carcinoma and T_1 human lymphoma cells in a dose-dependent manner and this effect is 10-fold more potent in proliferating cells compared to non-proliferating cells.[2] Amsacrine has antitumor activity against several murine leukemia, melanoma, lung, colon, and mammary xenograft mouse models.[3]

References

1. Nelson, E.M., Tewey, K.M., and Liu, L.F. Mechanism of antitumor drug action: Poisoning of mammalian DNA topoisomerase II on DNA by 4'-(9-acridinylamino)-methanesulfon-*m*-anisidide. *Proc. Natl. Acad. Sci. U.S.A.* **81(5)**, 1361-1365 (1984).
2. Drewinko, B., Yang, L.Y., and Barlogie, B. Lethal activity and kinetic response of cultured human cells to 4'-(9-acridinylamino)methanesulfon-*m*-anisidine. *Cancer Res.* **42(1)**, 107-111 (1982).
3. Rozencweig, M., Von Hoff, D.D., Cysyk, R.L., *et al.* *m*-AMSA and PALA: Two new agents in cancer chemotherapy. *Cancer Chemother. Pharmacol.* **3(3)**, 135-141 (1979).

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