



LKT Laboratories, Inc.

Amsacrine

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Product Information

Product ID A5072

CAS No. 51264-14-3

Chemical Name

Synonym 4-(9-Acridinylamino)-N-(methanesulfonyl)-m-anisidine hydrochloride, m-AMSA, AMSA, NSC141549

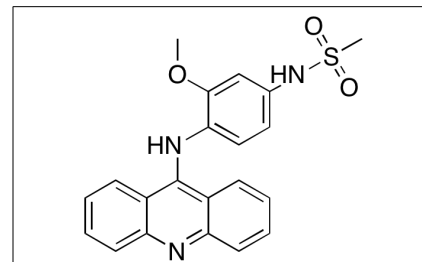
Formula C₂₁H₁₉N₃O₃S

Formula Wt. 393.46

Melting Point 233-237° C

Purity ≥98%

Solubility



Pricing and Availability

Bulk quantities available upon request

Product ID	Size	List Price
A5072	5 mg	\$106.40
A5072	10 mg	\$181.30
A5072	50 mg	\$437.60

Store Temp Ambient

Ship Temp Ambient

Description Amsacrine is an anticancer chemotherapeutic acridine derivative that is clinically used to treat acute myelogenous leukemia (AML). Amsacrine acts as a DNA intercalator, binding AT base pairs; this inhibits the activity of topoisomerase II, preventing DNA repair. In leukemia cells, amsacrine decreases expression of matrix metalloproteinases 2 and 9 (MMP2/9), inhibiting cell invasion. This modulation of MMP2/9 expression is caused by increases in ROS and activation of p38 MAPK and JNK, which increases levels of protein phosphatase 2A (PP2A), a negative regulator of MMP activity. In vitro, amsacrine inhibits human Ether-a-go-go-Related Gene (hERG) K⁺ channels, causing potential prolongation of the QT interval.

References Liu WH, Chen YJ, Chien JH, et al. Amsacrine suppresses matrix metalloproteinase-2 (MMP-2)/MMP-9 expression in human leukemia cells. *J Cell Physiol.* 2013 Oct 7. Epub ahead of print. PMID: 24122234.

Jangir DK, Dey SK, Kundu S, et al. Assessment of amsacrine binding with DNA using UV-visible, circular dichroism and Raman spectroscopic techniques. *J Photochem Photobiol B.* 2012 Sep 3;114:38-43. PMID: 22677564.

Thomas D, Hammerling BC, Wu K, et al. Inhibition of cardiac HERG currents by the DNA topoisomerase II inhibitor amsacrine: mode of action. *Br J Pharmacol.* 2004 Jun;142(3):485-94. PMID: 15148258.

Robinson MJ, Osheroff N. Stabilization of the topoisomerase II-DNA cleavage complex by antineoplastic drugs: inhibition of enzyme-mediated DNA religation by 4'-(9-acridinylamino)methanesulfon-m-anisidine. *Biochemistry.* 1990 Mar 13;29(10):2511-5. PMID: 2159323.

Caution: This product is intended for laboratory and research use only. It is not for human or drug use.