

# PRODUCT INFORMATION

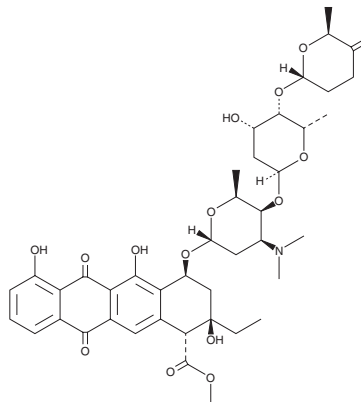


## Aclarubicin

Item No. 15993

**CAS Registry No.:** 57576-44-0  
**Formal Name:** (1R,2R,4S)-2-ethyl-1,2,3,4,6,11-hexahydro-2,5,7-trihydroxy-6,11-dioxo-4-[[2,3,6-trideoxy-4-O-[2,6-dideoxy-4-O-[(2R,6S)-tetrahydro-6-methyl-5-oxo-2H-pyran-2-yl]- $\alpha$ -L-lyxo-hexopyranosyl]-3-(dimethylamino)- $\alpha$ -L-lyxo-hexopyranosyl]oxy]-1-naphthacenecarboxylic acid, methyl ester

**Synonym:** NSC 208734  
**MF:** C<sub>42</sub>H<sub>53</sub>NO<sub>15</sub>  
**FW:** 811.9  
**Purity:**  $\geq$ 95%  
**UV/Vis.:**  $\lambda_{\text{max}}$ : 230, 260, 433 nm  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:**  $\geq$ 4 years  
**Item Origin:** Bacterium/*Streptomyces* sp.



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

### Laboratory Procedures

Aclarubicin is supplied as a solid. A stock solution may be made by dissolving the aclarubicin in the solvent of choice, which should be purged with an inert gas. Aclarubicin is soluble in DMSO.

### Description

Aclarubicin is an anthracycline originally isolated from *Streptomyces* and has antibiotic and anticancer activities.<sup>1</sup> It is active against *B. subtilis*, *B. cereus*, *S. aureus*, *M. smegmatis*, *S. pyogenes*, and *S. faecalis* (MICs = <0.2-2.5  $\mu\text{g/ml}$ ). Aclarubicin is a DNA intercalating agent, topoisomerase I poison, and an inhibitor of topoisomerase II catalytic activity.<sup>2,3</sup> It inhibits the growth of L1210 leukemia cells ( $\text{IC}_{50}$  = 0.12  $\mu\text{g/ml}$ ) and increases survival in an L1210 murine leukemia model when administered at a dose of 1.5 mg/kg per day.<sup>1</sup>

### References

1. Oki, T., Matsuzawa, Y., Numata, K., et al. New antitumor antibiotics aclacinomycins A and B. *J. Antibiot. (Tokyo)* **28(10)**, 830-834 (1975).
2. Nitiss, J.L., Pourquier, P., and Pommier, Y. Aclacinomycin A stabilizes topoisomerase I covalent complexes. *Cancer Res.* **57(20)**, 4564-4569 (1997).
3. Hajji, N., Mateos, S., Pastor, N., et al. Induction of genotoxic and cytotoxic damage by aclarubicin, a dual topoisomerase inhibitor. *Mutat. Res.* **583(1)**, 26-35 (2005).

#### 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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