Biological Source: Isol. from *Micromonospora* sp. nov.
Biological Use/Importance: Antibacterial, cytotoxic and antileukaemic
Melting Point: Mp 171-173 dec.° (as hydrochloride)
Optical Rotation: $[\alpha]_D^{23}$+111 (c, 0.2 in MeOH)
Solubility: BERDY SOL: Sol. MeOH, $CHCl_3$, Py, acids, dioxan; poorly sol. Et_2O, hexane, H_2O
Calculated Log P Data: Log P –0.91 (uncertain value) (calc)
UV: [neutral] λ_{max} 228 (ε 36400); 260 (ε 23700); 418 (ε 10900) (MeOH) (Derep) [neutral] λ_{max} 228 (E1%/1cm 645); 260 (E1%/1cm 420); 418 (E1%/1cm 193) (MeOH) (Berdy) [neutral] λ_{max} 235 (E1%/1cm 600); 262 (E1%/1cm 406); 426 (E1%/1cm 161) (pH 7 buffer) (Berdy) [base] λ_{max} 510 (E1%/1cm 120) (NAOH) (Berdy)

>>**Derivative:** 11-Deoxy, *O*^{4}-de-Me
Synonym(s): 4-*O*-Demethyl-11-deoxydoxorubicin

CAS Registry Number: 81382-05-0

Molecular Formula: $C_{26}H_{27}NO_{10}$
Molecular Weight: 513.5
Accurate Mass: 513.163499
Percentage Composition: C 60.82%; H 5.30%; N 2.73%; O 31.16%
Biological Source: Isol. from *Streptomyces peucetius* var. *aureus*
Biological Use/Importance: Antibacterial, cytotoxic and antineoplastic substance
Melting Point: Mp 208-210 dec.° (as hydrochloride)
Optical Rotation: $[\alpha]_D^{25}$+130 (c, 0.1 in MeOH) (hydrochloride)
Solubility: BERDY SOL: Sol. MeOH, $CHCl_3$, Py, dioxan, acids; poorly sol. Et_2O, H_2O, hexane
Calculated Log P Data: Log P –1.39 (uncertain value) (calc)
UV: [neutral] λ_{max} 228 (E1%/1cm 650); 258 (E1%/1cm 435); 430 (E1%/1cm 217) (MeOH) (Berdy) [base] λ_{max} 520 (E1%/1cm 152) (MeOH-NAOH) (Berdy)

>>**Derivative:** Demethoxy
Synonym(s): Medorubicin, INN**.** 4-Demethoxyadriamycin. NSC 256438

CAS Registry Number: 64314-52-9
Extra CAS Registry Numbers(s): 64363-63-9

Molecular Formula: $C_{26}H_{27}NO_{10}$
Molecular Weight: 513.5
Accurate Mass: 513.163499
Percentage Composition: C 60.82%; H 5.30%; N 2.73%; O 31.16%
Biological Use/Importance: Antineoplastic agent
Physical Description: Orange cryst. (as hydrochloride)
Melting Point: Mp 226-229 dec.° (hydrochloride)
Optical Rotation: $[\alpha]_D^{20}$+190 (c, 0.042 in MeOH)
Calculated Log P Data: Log P –1.39 (uncertain value) (calc)

>>**Derivative:** 4'-*O*-(Tetrahydropyran-2-yl)
Synonym(s): 4'-*O*-(Tetrahydropyranyl)adriamycin. **Pirarubicin,** INN**.** Theprubicin. THP-ADM. THP-ADR

CAS Registry Number: 72496-41-4

Molecular Formula: $C_{32}H_{37}NO_{12}$
Molecular Weight: 627.644
Accurate Mass: 627.231579
Percentage Composition: C 61.24%; H 5.94%; N 2.23%; O 30.59%
Biological Use/Importance: Antineoplastic agent
Development Status: Launched 1988
Melting Point: Mp 188-192 dec.°
Optical Rotation: $[\alpha]_D^{25}$+175 (c, 0.2 in $CHCl_3$)
Calculated Log P Data: Log P –0.06 (uncertain value) (calc)
Hazard & Toxicity: Adverse effects similar to Adriamycin when used therapeutically. LD_{50} (mus, ivn) approx. 28 mg/kg