

#5927 Store at -20°C

# Doxorubicin

✓ 5 mg



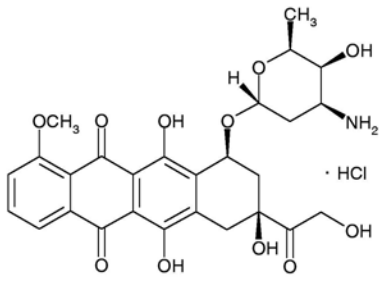
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For Research Use Only. Not For Use In Diagnostic Procedures.

**Background:** Doxorubicin, an anthracycline antibiotic, inhibits DNA and RNA synthesis in mammalian cells and has been shown to be a very effective anti-tumor agent (1,2). Doxorubicin binds to nucleic acids by intercalating the DNA double helix and stabilizing topoisomerase II cleavage complexes, leading to DNA strand breaks at specific doxorubicin-induced sites (3). Doxorubicin has been shown to inhibit DNA synthesis in a dose-dependent manner in MCF7 cells, which corresponds closely with growth inhibition (4). Researchers have also demonstrated that doxorubicin effectively inhibits human DNA topoisomerase I (5).

**Molecular Formula:** C<sub>27</sub>H<sub>29</sub>NO<sub>11</sub> • HCl



**Molecular Weight:** 579.98 g/mol

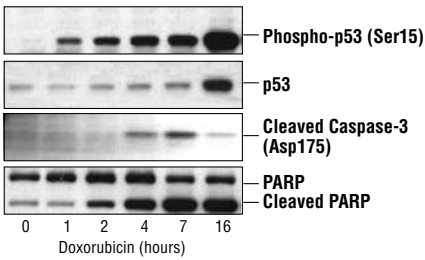
**Solubility:** Soluble in DMSO at 100 mg/ml; very poorly soluble in ethanol; soluble in water at 10 mg/ml with slight warming.

**Purity:** >99%

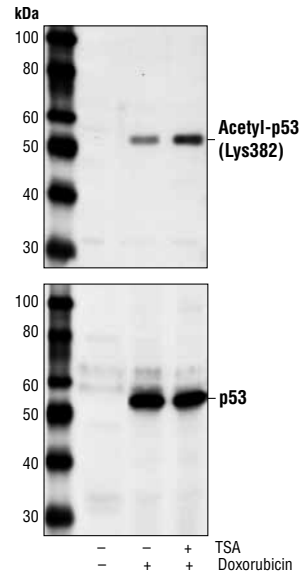
**Directions for Use:** Doxorubicin is supplied as a lyophilized powder. For a 10 mM stock, reconstitute the 5 mg in 860 µl DMSO. Working concentrations and length of treatments vary depending on the desired effect, but it is typically used at 0.1-5 µM for 12-24 hours. Soluble in DMSO at 100 mg/ml; very poorly soluble in ethanol; soluble in water at 10 mg/ml with slight warming.

**Background References:**

- (1) Kim, S.H. and Kim, J.H. (1972) *Cancer Res* 32, 323-5.
- (2) Momparler, R.L. et al. (1976) *Cancer Res* 36, 2891-5.
- (3) Capranico, G. et al. (1990) *Nucleic Acids Res* 18, 6611-9.
- (4) Fornari, F.A. et al. (1994) *Mol Pharmacol* 45, 649-56.
- (5) Foglesong, P.D. et al. (1992) *Cancer Chemother Pharmacol* 30, 123-5.



Western blot analysis of extracts from HeLa cells, serum-starved overnight and untreated or treated with Doxorubicin (5 µM) for the indicated times, using Phospho-p53 (Ser15) Antibody #9284, p53 Antibody #9282, Cleaved Caspase-3 (Asp175) Antibody #9661, or PARP Antibody #9542.



Western blot analysis of extracts from HeLa cells, untreated, treated with Doxorubicin (0.5 µM, 24 hr), or treated with Trichostatin A (TSA) #9950 (400 nM, 24 hr) and Doxorubicin (0.5 µM, 24 hr), using Acetyl-p53 (Lys382) Antibody #2525 (upper) or p53 (1C12) Mouse mAb #2524 (lower).

**Storage:** Store lyophilized or in solution at -20°C, desiccated. Protect from light. In lyophilized form, the chemical is stable for 24 months. Once in solution, use within 3 months to prevent loss of potency. Aliquot to avoid multiple freeze/thaw cycles.

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**Applications Key:** W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide  
**Species Cross-Reactivity Key:** H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine  
Dg—dog Pg—pig Sc—S. cerevisiae All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.