**Product Name:** Nemorubicin  
**Cat. No.:** HY-15794  
**CAS No.:** 108852-90-0  
**Molecular Formula:** C32H37NO13  
**Molecular Weight:** 643.64  
**Target:** Topoisomerase  
**Pathway:** Cell Cycle/DNA Damage  
**Solubility:** DMSO: ≥ 47 mg/mL

**BIOLOGICAL ACTIVITY:**

Nemorubicin (Methoxymorpholinyl doxorubicin; MMDX; PNU 152243) is a 3’–deamino–3’[2–(S)–methoxy–4–morpholinyl] derivative of doxorubicin. Nemorubicin has the anticancer activity on human hepatocellular carcinoma with an IC50 of 80 nM.  
IC50 value: 80 nM [1]  
Target: anticancer  
in vitro: Methoxymorpholinyl doxorubicin (PNU 152243) is a morpholinyl analog possessing a methoxymorpholinyl group at the 3’ position of the sugar moiety, which, compared with doxorubicin, appears to be less cardiotoxic and more cytotoxic against multidrug–resistant tumor cells. In this study, we report the anticancer activity of PNU 152243 on human hepatocellular carcinoma (HCC) in vitro and in vivo. The average IC50 value of PNU was 0.08 microM [1]. Microsome–activated MMDX exhibited nanomolar IC(50) values in growth–inhibition assays of human tumor cell lines representing multiple tissues of origin: lung (A549 cells), brain (U251 cells), colon (LS180 cells), and breast (MCF–7 cells). MMDX cytotoxicity was substantially increased in Chinese hamster ovary cells after stable expression of CYP3A4 in combination with P450 reductase [2].  
in vivo: In vivo antitumor activity experiments revealed that TAO completely suppressed the ability of 90 microg/kg MMDX i.v., a dose close to the LD10, to delay growth of s.c. M5076 tumors in C57BL/6 mice and to prolong survival of DBA/2 mice with disseminated L1210 leukemia. Moreover, TAO administration markedly inhibited the therapeutic efficacy of 90 microg/kg MMDX i.v. in mice bearing experimental M5076 liver metastases; a complete loss of MMDX activity was observed in liver metastases–bearing animals receiving 40 microg/kg MMDX i.v. plus TAO [3].

**References:**