Product Description

HU-331 is a cannabinoid-based quinone with potential anticancer activity. It has anti-topo IIα activity as a catalytic inhibitor rather than a poison (such as etoposide). HU-331 acts to inhibit the ATPase activity of the enzyme and has been shown to be effective in killing tumor cells. The drug may also influence redox associated action. Recent work has shown that HU-331 block catalytic action of topoisomerase II and the action is specific for human topo IIα and does not act on DNA gyrase from E. coli (Fig. 1,2) or on human topo I (data not shown). The inhibitory action is redox dependent. TopoGEN provides this reagent as a control inhibitor of topoisomerase IIa and it is not recommended as a control for interfacial poisoning. HU-331 is somewhat aqueous soluble (up to 0.5mg/ml in 50% ethanol in PBS buffer). The drug is pre-tested and shown to inhibit relaxation, decatenation and DNA cleavage activity of human DNA topoisomerase IIα.

Vial Contents.
Each vial contains 25 ul of 10mM solution of HU-331 in 100% DMSO (corresponding to 3.28mg/ml).

Storage and Shipping Conditions
The drug is shipped on dry ice and should be stored at -20°C. It should retain activity for 6 months.

References:

Demonstration of activity of this drug on Topoisomerase IIα and E. coli DNA Gyrase is shown in Figs. 1 and 2 below.

**Figure 1. Decatenation activity of topo IIα is inhibited by HU-331.**

Human topo IIα (purified to homogeneity, Catalog # TG2000H)) was incubated with increasing amounts of HU-331 as shown. Loss of decatenation products (nicked and relaxed monomeric circles) was observed at the two highest inputs of HU-331.

**Figure 2. DNA Gyrase is not affected by HU-331.**

E. coli Gyrase (purified to homogeneity, Catalog # TG2000G)) was incubated with increasing amounts of HU-331 as shown. Supercoiling of relaxed DNA (‘relax’) substrate was measured. Formation of SC (supercoiled) DNA was not altered by HU-331 over the range tested.