BIOLOGICAL ACTIVITY:

Belotecan hydrochloride (CKD-602 hydrochloride), a Topoisomerase I inhibitor, is a synthetic and water-soluble camptothecin derivative. **In Vitro:** Belotecan exerts a significant cytotoxic effect on YD-8, YD-9 and YD-38 cells in a time- and dose-dependent manner with IC\textsubscript{50} values of 2.4, 0.18 and 0.05 μg/mL at 72 h following treatment. Belotecan induces apoptosis in these cell lines. Belotecan induces G2/M phase arrest in oral squamous cell cancer cells\textsuperscript{[1]}. Belotecan shows a significant anticancer effect on glioma cells, with IC\textsubscript{50} values of 9.07 nM for LN229, 14.57 nM for U251 MG, 29.13 nM for U343 MG, and 84.66 nM for U87 MG\textsuperscript{[2]}. **In Vivo:** Belotecan has a significant effect on intracerebral glioma growth, with animals having significantly smaller tumors than those in the control group\textsuperscript{[3]}.

PROTOCOL (Extracted from published papers and Only for reference)

**Cell Assay:** Belotecan is dissolved in distilled water at 1 μg/mL and diluted with RPMI 1640 medium\textsuperscript{[1]} The cells are treated with different concentrations (0.01, 0.1, 0.5, 1, 5 and 10 μg/mL) of belotecan for 24, 48 and 72 h. Control samples of each cell line are treated with medium only. Cell viability is measured using the MTS assay\textsuperscript{[1]}. **Animal Administration:** Belotecan is prepared in saline\textsuperscript{[1]} Mice: Nude mice with established U87MG glioma are treated with a dose of belotecan of 0 mg/kg (control group, injection with saline), 40 mg/kg (group A) or 60 mg/kg (group B). Thereafter, the dose is repeated once every 4 days for a total of four doses. Tumor volume is measured histologically and apoptosis is detected\textsuperscript{[1]}.

References:


CAIndexNames:

1H-Pyrano[3',4':6,7]indolizino[1,2-b]quinoline-3,14(4H,12H)-dione, 4-ethyl-4-hydroxy-11-[[2-[(1-methylethyl)amino]ethyl]-, hydrochloride (1:1), (45)-

SMILES:

O=C1[C@](O)(CC)C2=C(CO1)C(N3CC4=C(CCNC(C(C)C5=CC=CC=CSN=C4C3=C2)=O)[H]Cl