

Role of apoptosis in HESA-A teratogenicity in mouse fetus

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Abstract

HESA-A is a natural compound of herbal-marine origin with cytotoxic and antitumor effects. The anticancer effects of HESA-A has been the subject of both in vivo and in vitro studies. This study was to investigate the mechanism of HESA-A teratogenicity. We assessed the HESA-A-induced apoptosis in mouse fetus in vitro by using the vital staining and TUNNEL methods. HESA-A, in lower doses, had no significant effect on apoptosis but, in higher doses of 20 and 40 µL, increased cell death. A dose of 100 µL induced the cell death with both apoptosis and necrosis mechanisms. HESA-A changed the cell-death pattern; in moderate doses of the drug, the apoptosis-to-necrosis ratio was more than 1, and in higher doses, this ratio was less than 1. © 2009 Informa UK Ltd.

Reaxys Database Information

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Apoptosis; HESA-A; Teratogenicity; TUNNEL; Vital staining

Indexed Keywords

EMTREE drug terms: hesa a; natural product; unclassified drug; antineoplastic agent; dyes, reagents, indicators, markers and buffers; heavy metal; HESA A preparation; HESA-A preparation; neutral red; plant medicinal product; teratogenic agent

EMTREE medical terms: animal cell; antineoplastic activity; apoptosis; article; controlled study; drug cytotoxicity; embryo; female; fetus; herb; in vitro study; in vivo study; male; mouse; nonhuman; tarsal tunnel syndrome; teratogenicity; vital stain; animal; animal embryo; Bagg albino mouse; chemically induced disorder; chemistry; dose response; drug effect; embryo culture; necrosis; nick end labeling; pathology; physiology; pregnancy

MeSH: Animals; Anticarcinogenic Agents; Apoptosis; Dose-Response Relationship, Drug; Embryo Culture Techniques; Embryo, Mammalian; Female; In Situ Nick-End Labeling; Indicators and Reagents; Male; Metals, Heavy; Mice; Mice, Inbred BALB C; Necrosis; Neutral Red; Plant Preparations; Pregnancy; Teratogens
Medline is the source for the MeSH terms of this document.

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