Pharmacologyonline
Volume ٣, September ٢٠٠٩, Pages ٥٢٢-٥٣٠

Study of noscapine-induced cell death in hepatocellular carcinoma cell line

Tayarani-Najaran, Z.[a], Parsaee, H.[a], Hoseini, A.[c], Mousavi, S.H.[ab]
[a] Department of Pharmacology, School of Medicine, **Mashhad University** of **Medical Sciences**, P.O. Box: ٩١٧٧٩٤٨٥٦٤, **Mashhad**, Iran
[b] **Medical** Toxicology Research Center, **Mashhad University** of **Medical Sciences**, **Mashhad**, Iran

View references (٣٦)

Abstract

Current therapies for cancer treatment are often limited by the emergence of drug resistance and side effects . There is much interest in the identification of new agents for cancer chemotherapy. Noscapine is an isoqiunoline alkaloid found in opium. It is not sedative and has been used as antitussive drug in different countries. Recently, noscapine has been introduced as an anti-mitotic agent. In this study cytotoxic effect of noscapine was evaluated in hepatocellular carcinoma cell line (HepG٢). Meanwhile role of apoptosis was explored Hep-G٢ and non-malignant cells (L٩٢٩) were cultured in RPMI medium and incubated with different concentrations of noscapine (٣,٧٥-٢٥٠ µM) for ٢٤, ٤٨ and ٧٢ h. Paclitaxel used as a positive control. Cell viability was quantitated by MTT assay. Apoptotic cells were determined using Annexine-V/PI staining method. The results showed noscapine could decrease cell viability in Hep-G٢ cells as a concentration and time-dependent manner. The IC٥٠ value against Hep-G٢ was determined ٧٥,٧٢ µM after ٤٨ h. Apoptosis was involved in the cytotoxic effect of noscapine. Thus, apoptosis is involved in noscapine-induced cytotoxicity in Hep-G٢ cell line. Noscapine could be considered as a potential chemotherapeutic agent in hepatocellular carcinoma in future.

Reaxys Database Information

|

Author keywords

Apoptosis; Cytotoxicity; Hepatocellular carcinoma; Noscapine

Indexed Keywords

EMTREE drug terms: lipocortin ٥; noscapine; paclitaxel

EMTREE medical terms: article; cell death; cell viability; controlled study; drug cytotoxicity; drug effect; human; human cell; IC ٥٠; liver cell carcinoma

Chemicals and CAS Registry Numbers: lipocortin ٥, ١١١٢٣٧-١٠-٦; noscapine, ١٢٨-٦٢-١; paclitaxel, ٣٣٠٦٩-٦٢-٤
Manufacturers:Drug manufacturer: Sigma.

ISSN: ١٨٢٧٨٦٢ **Source Type:** Journal **Original language:** English
Document Type: Article