

**Euro Pharmacognosy 2019: Pistacia lentiscus as a source of bioactive compounds for human health-Djebbar Atmani-Université de Bejaia****Djebbar Atmani  
Université de Bejaia, Algeria****Short Communication****Abstract**

Medicinal plants are believed to be an important source for the discovery of potential antioxidant, anticancer, anti-inflammatory and anti-diabetic substances. The present study was designed to investigate the anti-inflammatory, antidiabetic and anticancer potential of *Pistacia lentiscus* (Anacardiaceae) extracts, as well as identification of active compounds, using appropriate methodology.

Oral administration of the crude extracts of leaves and fruits (100 and 200mg/kg) significantly decreased carrageenan-induced mice paw edema similar to the standard drug diclofenac (50mg/kg). Furthermore, *Pistacia lentiscus* leaf extract was effective in reducing the serum levels of IL-1 $\beta$  compared to acetylsalicylic acid. Blood glucose level was restored to normal values, for both concentrations (50 and 125mg/kg) tested, in agreement with the in vitro antidiabetic effect. *P. lentiscus* extracts were also found to be significantly cytotoxic on melanoma B16F10 cell line and showed very good anti-hyperuricemic activity. Phytochemical analysis indicated the presence of copious amounts of flavonoids, tannins and phenolics in the extracts of this plant such as Gallic acid, myricetin-rhamnoside, quercetin 3-O-rhamnoside, synergic acid and ellagic acid, which could be responsible for the observed activity.

Obtained results suggest that *Pistacia lentiscus* extracts exhibited strong biological effects and may be a candidate for the development of pharmacological agents that may be used in therapy against inflammatory-related disorders.

*Pistacia lentiscus* Linn. (Family - anacardiaceae), commonly known as mastic tree or mastagi, has been used in traditional system of medicines for treatment of various kinds of diseases since long-standing time. Its various parts contain a variety of chemical constituents which are medicinally important such as resin, essential oil, gallic acid, anthocyanin's and flavonol glycosides, nortriterpenoids,  $\alpha$ -tocopherol and arabino-galactan proteins. *Pistacia lentiscus* L. belongs to *Pistacia* genus of Anacardiaceae family of Sapindales section of the plant kingdom. Other important members of the same family are *Pistacia atlantica* (hackberry), *Pistacia terebinthus* (turpentine tree) and *Pistacia vera* (pistachio). Mastic resin has been used as raw material from the leaves and fruits as a drug in many countries since the very old times. It is seen in the literature that mastic is widely used in medicine and pharmacy. It is used in dyspepsia treatment, against anti-atherogenic microbes, as an anti-mutagen, anti-oxidant, anti-fungal, against liver fattening, to treat wounds, as a hypotensive, antiarthritis, and anti-gout. Some studies report positive outcomes by mastic oil in prevention and treatment of some types of cancer, as well as treatments for peptic ulcer and helicobacter (Chadzopulu et al., 2011) Mastic tree may be economically utilized for an average of 50 years.

It is important to note that, a mutant p53 will not bind to DNA in an effective manner, and, as a result, the p21 protein will not be available to act as the "stop signal" for cell division. 50% ethanolic extract of Chios Mastic Gum (CMG) of *Pistacia lentiscus* was found to be working like p53 in inhibiting proliferation and inducing death of HCT116 human colon cancer cells in vitro, by exerting concentration dependent apoptosis through direct or indirect induction of cell arrest at G1phase followed by DNA damage. The essential oil and gum from the plant have been widely used as food and beverage flavoring additives and traditional medicines in the Mediterranean area since ancient times. *Pistacia* species have widely used in food industries, for example in adherent production, in alcoholic and non-alcoholic refreshments, in cosmetics as filling material ingredient in dentistry and in toothpaste production.

**Note:** This work is partially presented in 7th European conference on Pharmacognosy, Medicinal Plants and Natural Products December 02-03, 2019 held at Paris, France.