

RESEARCH ARTICLE

Antibacterial Activity of Ariel Part of *Andrographis paniculata*

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ABSTRACT:

The present study aimed at screening of antimicrobial activity against *E. Coli* and *B. Subtilis* of methanolic, chloroform, and aqueous extract of Ariel part of *Andrographis paniculata*. The three concentrations were prepared of each extracts 100 mg/ml, 200 mg /ml and 300mg/ml. For each bore 0.2 ml is added. The antimicrobial activity was carried out by Disc diffusion method with Benzyl peniciline as a standard. (100mg/kg). The study (antibacterial screening) showed that among all the extract the methanolic extract showed maximum zone of inhibition. The plant contains various active constituent such as Kalmeghin Andrographolide, which may be responsible for antimicrobial activity of the plant.

KEYWORDS: *Andrographis paniculata*, Andrographolide, and Kalmeghin, benzyl Penicillin.

1.INTRODUCTION:

Andrographis, also known as “King of Bitters,” is a member of the plant family Acanthaceae. The leaves and stems of the plant are used for extraction of the active phytochemicals. The most medicinally active phytochemical in *Andrographis paniculata* is andrographolide¹. Andrographis is an immune enhancer and may also be useful for cancer therapy. It is a potent antiviral herb and helps to stop the growth of viruses. It is often used in Ayurveda and in Traditional Chinese Medicine for the treatment of various diseases. It a very important “cold property” herb, used to rid heat and toxins from the body².

Research confirms that Andrographis, when properly administered, has a wide range of Pharmacological effects. It has been used in Asia for centuries to treat GI tract and upper respiratory infections, fever, herpes, sore throat and a variety of other chronic and infectious diseases. Studies have shown Andrographis to have cancer cell-killing ability³.

This ability for killing cancer cells was superior to the levels of the effectiveness recommended by the National Cancer Institute for a cytotoxic substance.

Research has also shown it to inhibit HIV’s toxic effect on cells and combat other viruses; have blood pressure lowering effects; reduce diarrhea and symptoms from bacterial infections; and cleanse and purify the system, particularly the blood⁴.

Andrographis paniculata is a potent stimulator of the immune system, making it effective against a variety of infections and oncogenic agents anti-viral, common cold, fever, inflammation, antibacterial, antimalarial, filaricidal, antidiarrheal, antifertility and other diseases⁵. In view of its diversity of activities the efficacy of the *A. paniculata* roots of hexane and methanolic extracts were screened for their antibacterial activity against bacteria and antifungal activity against fungi by cup diffusion method. The hexane and methanolic extracts showed less and the results are presented in this communication⁶.

In Ayurveda the drug has been described as antipyretic and hepatoprotective. Cold infusion of the drug is mentioned in Sushruta Samhita for fever and liver disorders and recommended in Charaka Samhita for treatment of Jaundice. This herb is used by the Chinese in extract form for diseases of the throat^{1,2}.

1.1 Habitat:

Kalmegh grows erect to a height of 30-110 cm in moist shady places with glabrous leaves and white flowers having rose-purple spots on the petals. Flowers are small, solitary in panicles. Fruit is approximately 2 cm long. Seeds are numerous, yellow-brown in colour⁷.