

## Phytochemical Screening of Various Extracts of Root of Withania Somnifera (L) Dunal

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### Abstract

**Withania somnifera (L) Dunal (Solanaceae), commonly known as Ashwagandha, is one of the most valued medicinal plants with a number of pharmaceutical applications. The roots are the main portion of the plant used in herbal medicine. Root extracts of W. somnifera are commonly used as a remedy for variety of ailments and a general tonic for over all health and longevity in the Traditional medicine system. The aim of the study was to investigate the secondary metabolites of various extracts of root of W. somnifera and quantification of some of the active constituents like alkaloids, flavonoids, saponins and volatile oil according to standard procedures. The preliminary phytochemical screening of cold and hot ethanol, methanol and aqueous extracts showed the presence of alkaloids, saponins, flavonoids, steroids, tannins, proteins, reducing sugar and coumarins and absence of quinones or anthraquinones. The total alkaloid, flavonoid contents were found to be  $0.81 \pm 0.01$  %,  $14.43 \pm 0.40$  % and total saponin content was (Foaming Index) FI < 100 respectively. The considerable amount of volatile oil was not determined in fresh root of W. somnifera. The findings are consistent with the presence of biologically active constituents in the polar extracts of W. somnifera and may provide helpful in authentication and identification of this plant.**

**Keywords:** Different extracts, phytochemical screening, root, Withania somnifera

### INTRODUCTION

Medicinal herbs are making a tremendous revival all over the globe. The herbal products today symbolize safety in contrast to the synthetics that are regarded as unsafe to human and environment. Over three quarters of the world population relies mainly on plants and plants extracts for health care (Lakshmi et al., 2011). In the Traditional system of medicine, which dates back many centuries, uses many herbal extracts to cure a variety of diseases including carcinoma (Singh et al., 2005). One such popularly used plant that is reported to have anti-inflammatory, anti arthritic, antitumor, antioxidant, immunomodulatory, and hepatoprotective effects is Withania somnifera Dunal, which is commonly known as 'Ashwagandha' (Al-Hindawi et al., 1989; Mohammed et al., 1996; Rasool et al., 2000, Marie Winters, 2004; Subramanian et al., 2008 and Bhattacharya et al., 2008). It is useful in stress, strain, fatigue, pain, skin disease, diabetes, gastro intestinal disease, rheumatoid arthritis, and epilepsy (Kirtikar & Basu, 1935;