

## A Quality Assessment {Phyto, Physicochemical Profile} of Root of *Withania somnifera* (Linn) Dunal

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### Abstract

*Withania somnifera* (Linn) Dunal belongs to Solanaceae family and is widely used in the traditional medicinal system of Sri Lanka. It is commonly called 'Ashwagandha' and is a member of generally regarded as safe (GRAS) category of plants that can be used for many therapeutic purposes such as a variety of musculoskeletal conditions (e.g., arthritis, rheumatism), general debility, low energy, tumours, cough and as a general tonic to increase energy, improve overall health, etc. For the quality assessment of root of *W. somnifera*, six samples of this root powder were used and organoleptic characters, physicochemical parameters such as ash values, loss on drying, pH and hot ethanol and water extractive values were carried out according to the World Health Organization guidelines. A preliminary phytochemical screening was done to detect different phyto-constituents in its hot ethanol and water extracts according to standard laboratory procedures. All samples were tested and mean values along with standard deviation were recorded. The quality assessment profile of root of *W. somnifera* obtained in the present study to be an immense value in identification and authentication of this plant and may help in preventing its adulteration (particularly when used in the powdered form).

**Keywords:** Physicochemical, Phytochemical, Profile, Quality assessment, *Withania somnifera*

### 1. Introduction

Medicinal herbs have been known for centuries and are highly valued all over the world as a rich source of therapeutic agents of medicinal plants for public health care in developing nations and has evolved guidelines to support the member states in their efforts to formulate national policies on traditional medicine and to study their for prevention of diseases and ailments [1]. According to a WHO estimate, about 80% of the world population still relies mainly on traditional remedies such as herbs for their medicines [2]. Today, Ayurvedic, Siddha, Homoeopathy and Unani physicians utilize numerous species of medicinal plants that found their way a long time ago into the Hindu Material Media [3]. The World Health Organization (WHO) has importance potential usefulness including evaluation, safety and efficacy. It has become extremely important to make an effort towards standardization of the every plant to be used as medicine [4].

*Withania somnifera* (Linn) Dunal belongs to Solanaceae family. It is commonly called 'Ashwagandha' and is a member of generally regarded as safe (GRAS) category of plants that can be used for many therapeutic purposes such as a variety of musculoskeletal conditions (e.g., arthritis, rheumatism), general debility, and as a general tonic to increase energy, improve overall health, etc [5-7]. Studies indicated root of *W. somnifera* possesses anti-inflammatory, antitumor, anti-stress, antioxidant, immunomodulatory, hemopoetic, and rejuvenating properties [8]

*W. somnifera* is widely used in the traditional medicinal system of Sri Lanka. Quality assessment of root of *W. somnifera*, grown in India has been published [9]. Although root of *W. somnifera* used in preparation of traditional medicines in Jaffna District, its quality assessment still not published. Therefore, it was important to carry out a quality assessment of the plant material available in Sri