

Nigellin - Elixir for Overall Health and Wellness

Sabinsa's Nigellin™ is obtained from the seeds of *Nigella sativa* (Black Cumin) and standardized to contain 5% Thymoquinone

Sabinsa's Nigellin represents patent pending, solvent-free, supercritical fluid extraction (SCFE) black cumin seed extracts, standardized to contain thymoquinone. **Nigellin is available as oil** (Nigellin BCS - Amber), **and defatted black and white powders** (Nigellin BCS - Onyx and Nigellin BCS - Pearl, respectively).

Nigella sativa, popularly known as 'black seed,' or 'black cumin,' one the most revered medicinal seeds in history of mankind, is indeed a gift from the Mother Nature—owing to its well-established, sanctified, and miraculous uses for over 3,000 years. Various medicinal and healing properties of black seed are directly mentioned in the Qur'an as 'blessed food.' Black seed has also been mentioned in the Bible as the 'curative,' used by Asian herbalists and the Romans for culinary purposes for centuries. Thus, it is not surprising that Prophet Muhammad had praised black cumin by saying that "Hold on to the use of the black seed for indeed it has a remedy for every disease except death."

Chemical constituents

One of the reasons for considering black seeds as the main sources of nutrition and healthcare might be due to the complex chemical structure of the seeds. These little seeds contain more than 100 different chemical constituents, including carbohydrates, proteins, volatile and fixed oils, and are also an abundant source of all the essential fatty acids. Thymoquinone is proved to be the main active constituent of the volatile oil of the black seed and is known to have several medicinal properties.

A time-honored remedy

Though black seed has been recognized as one of the most popular herbs in many parts of the world for centuries, extensive research during last 40 years has further validated its potential health benefits, viz. maintain healthy inflammatory response (Mahdavi et al., 2016), asthma control support (Koshak et al., 2017), improved glycemic control in diabetic patients (Bamosa et al., 2010), protective role in diabetic nephropathy (Ansari et al., 2017), healthy blood pressure (Dehkordi and Kamkhah, 2008) and lipid profile management (Sabzghabae et al., 2012), helps boost male fertility (Marbat et al., 2013; Kolahdooz et al., 2014).

Asthma

Recent research published in *Frontiers of Pharmacology* identified Nigellin™ BCS - Amber, Sabinsa's Black Cumin (*Nigella sativa*) seed extract, as being the most effective of the 10 *Nigella sativa* (NS) extracts used in an in vitro study which suppressed the release of the most active cytokines and identified a prostanoid with inflammatory properties which may possess a favorable effect in the context of asthmatic conditions (Comparative Immunomodulatory Activity of *Nigella sativa* L. Preparations on Proinflammatory Mediators: A Focus on Asthma, *Front. Pharmacol.*, 02 October 2018).

Researchers evaluated 10 different NS extracts, and top ranked the extract provided by Sabinsa's parent company and manufacturing arm, Sami Labs. It surpassed the second ranking extract in terms of the active constituent, thymoquinone (TQ), by more than 300%.

Anti-inflammatory and immunomodulating properties are among the most valued in anti-asthma herbal products. Nigellin had the highest effects in suppressing the release

of cytokines IL-2, IL-6 and PGE2 in T-lymphocytes and also in monocytes hindering the expression on IL-2 and PGE2. These are among the most active cytokines involved in asthmatic conditions. The investigators noted a positive relationship between the TQ level in the preparations and its inhibitory potency on IL-6 and PGE2.

However, PGE2 does exhibit beneficial bronchodilatory effects in human lung epithelial cells and Sabinsa's extract showed an enhanced PGE2 expression in A549 human epithelial cells lines, demonstrating an interesting activity behavior of the maximum-TQ containing Sabinsa's extract. The results presented in this paper formed the biochemical basis of a subsequently conducted clinical trial.

Asthma is a debilitating disease afflicting 25 million people in the USA, alone and 334 million globally according to some estimates. It tends to flare up sharply due to external factors such as pollution and allergens.

Nigella sativa and its preparations have been referenced extensively in traditional healthcare systems ranging from Ayurvedic and Unani to Arabic and Prophetic for prevention and treatment of asthma, making it a candidate for study by modern researchers. Lack of standardization has, however, hampered researchers in evaluating the material's efficacy in the past.

"This emerging antioxidant ingredient has traditionally been used in the management of numerous health conditions, with recent research beginning to validate historically reported benefits."

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