

NOTE**A Brief Review on *Solanum nigrum***

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Solanum nigrum Linn (N.O. Solanaceae) commonly known as black nightshade or *mako* is widely distributed throughout India. Its berries are used in Ayurvedic and Unani systems of medicine as hepatoprotective, laxative, alternative, aphrodisiac, tonic and diuretic. Freshly prepared extract of plant is effective in cirrhosis of liver and opium poisoning¹. The whole plant of *Solanum nigrum* L. has been traditionally used in various types of cancers in China².

Chemical Screening

S. nigrum contains steroidal alkaloids like the other members of Solanaceae family; so most of the phytochemical work has been done on the isolation and identification of the presence of the following steroidal alkaloids:

Solasodine (m.p. 202°C) is present in every part of the plant in the range of 0.02–1.6% but the highest percentage is found in the berries. The solasodine content increases during ripening of fruit^{3, 4}.

Solanidine⁴ (m.p. 218–19°C) and solanidine glycoside¹⁰ are found in the immature berries but absent in the ripe berries.

Solasodiane (m.p. 168–70°C) is detected in the berries⁵.

Solasonine, solamargine and solasourine are isolated from green unripe fruits^{6, 7}. All these contain solasodine as aglycone.

Solanine (containing solanidine as aglycone)⁸ is also found.

N-methyl solasodine, solanocapsine, tomatodienol and 12β-hydroxy-solasodine are isolated from this plant⁹.

Mineral elements like Ca, Cu, Fe, Zn, Ba, K, Na, Mn, Al are also isolated from *S. nigrum*¹¹.

Pharmacological Screening

It is evaluated for hepatoprotective activity with success mostly, but to some extent, other activities are also observed in this plant.

Hepatoprotective Activity

Alcoholic extract of *Solanum nigrum* at a dose of 50 mg/100 g (i.p.) is found to significantly lower the lipid level and prevent the development of fatty liver induced by liquor¹².

This plant is a constituent of the well known Unani formulation 'Jigrine' used

as hepatoprotective drug. The action is well established by observing its effect in paracetamol induced liver damage in rats¹³.

The herbal formulation containing *Andrographis paniculata*, *Phyllanthus niruri* and *Solanum nigrum* is also found to be effective in paracetamol induced liver damage in sheep¹⁴ and goat¹⁵.

The fruit is found to be effective in paracetamol and CCl₄ induced liver damage in albino rats. It is found to decrease the serum transaminase¹⁶.

Antiinflammatory activity

Alcoholic extract of *Solanum nigrum* fruits is found to exhibit significant activity on inhibition of edema in albino rats probably due to presence of glycoalkaloids and steroidal genins¹⁷.

Miscellaneous

Alcoholic extract of fruits of *S. nigrum* is found to significantly prolong pentobarbital induced sleeping time, to produce alteration in the general behaviour pattern, to suppress the aggressive behaviour and reduce the spontaneous motility. It has been demonstrated to possess potent CNS depressant action¹⁸.

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