

# Revatol™

## COMPOSITION

**Revatol™** syrup: Each 5 ml syrup contains extracts of *Vitis vinifera* 0.72 gm, *Cinnamomum zeylanicum* 13.87 mg, *Elettaria cardamomum* 13.87 mg, *Mesua ferrea* 13.87 mg, *Aglaia roxburghiana* 13.87 mg, *Saussurea lappa* 13.87 mg, *Piper longum* 13.87 mg and *Piper nigrum* 13.87 mg with some other herbs as per BNAF.

## DESCRIPTION

Mahadrakkharist is classical polyherbal ayurvedic preparation rich in resveratrol and bioflavonoid like ingredients called proanthocyanidins (PCOs) which is scientifically proven and effective in Chronic Obstructive Pulmonary Diseases. *Vitis vinifera* is the principal herb of Mahadrakkharist belongs to Vitaceae family is a perennial woody vine native to Asia and then introduced in Europe and other continents. It is familiar as grapes or Drakha in Bangladesh.

## CHEMICAL CONSTITUENTS

The chemical analysis has shown the presence of proanthocyanidins (PCOs) including procyanidins, anthocyanins, flavanoids, 3-oxo-a-ionol, vomifoliol and dehydrovomifoliol were identified for the first time in fruit from *Vitis vinifera*. Therapeutically active constituent, resveratrol is isolated from the skin of Grapes.

## PHARMACOLOGY

Grapes contain beneficial bioflavonoid-like ingredients called "proanthocyanidins" (PCOs or OPCs). Proanthocyanidins are believed to protect cell membranes by neutralizing particularly harmful free radicals called "lipid peroxides". PCOs may strengthen the capillary walls and skin. It has been reported to inhibit the release of inflammatory chemicals, such as histamine and prostaglandins. PCOs have been used in allergies and asthma because of their reported ability to slow histamine release from mast cells. Resveratrol, a molecule has antioxidant and anti-inflammatory properties that may protect against COPD and asthma (Wood 2010). A cell culture study found that resveratrol inhibited the release of all measured inflammatory mediators (cytokines) from immune cells extracted from the alveoli of smokers and non-smokers with COPD. Moreover, while resveratrol attenuates the release of inflammatory mediators in airway smooth muscle cells, it preserves signaling of a protein called vascular endothelial growth factor (VEGF), which may be protective against emphysema. More recently, the anti-inflammatory effects of resveratrol have been associated with inhibition of the transcription factor NF- $\kappa$ B, possibly mediated via the inhibition of I- $\kappa$ B kinase. Resveratrol has several activities that may account for its possible cardioprotective action. These include inhibition of the oxidation of low-density lipoprotein (LDL), inhibition of smooth muscle cell proliferation and inhibition of platelet aggregation. Resveratrol also has been found to exert a strong inhibitory effect on superoxide anion and hydrogen peroxide production by macrophages stimulated by lipopolysaccharides or phorbol esters. It also increases nitric oxide and decreases lactate dehydrogenase levels in the carotid blood and effective against ischemia-reperfusion induced arrhythmias. Triterpenes roxburghadiol A and B isolated from this plant *Aglaia roxburghiana* has the potent anti-inflammatory activity and mast cell degranulation induced by *A. roxburghiana* extracts and the triterpenes.

## PHARMACOKINETICS

From animal and limited human studies, it appears that resveratrol is absorbed from the gastrointestinal tract following its ingestion. Resveratrol is found in the form of a glucuronide conjugate after crossing the small intestine and entering the blood circulation. In case of human, five metabolites of resveratrol have been detected in urine, such as resveratrol monosulphate, two isomeric forms of resveratrol monoglucuronide, dihydroresveratrol monosulphate and dihydroresveratrol monoglucuronide. 56% sulphate and glucuronide conjugates excrete through urine (Baur and Sinclair, 2006).

## INDICATION

- Chronic obstructive pulmonary diseases(COPD)
- Asthma (both allergic and cardiac asthma)
- Pulmonary fibrosis
- Pulmonary tuberculosis

## DOSAGE AND ADMINISTRATION

Resveratrol content of grapes is partly responsible for the therapeutic effect. Daily recommended dose of resveratrol is 8 mg/kg body weight. Each 5 ml **Revatol™** syrup contains 36 mg resveratrol as fluid extract. So the daily recommended dose is –

<i>Children under 12 years</i>	: 1 - 2 teaspoonfuls (5 – 10 ml) 2 times daily after meal.
<i>Above 12 years and Adult</i>	: 3 - 4 teaspoonfuls (15 - 20 ml) 2 times daily after meal for 4 – 8 weeks or as directed by the physician.

## SIDE EFFECTS

There are no side effects associated with the use of Drakha in the above mentioned therapeutic doses. Drakha has been used safely as an ayurvedic medicine for hundreds of years. But in very rare case stomach pain, headache and an allergic reaction have been reported.

## PRECAUTION

Drakha is well tolerated but caution should be taken in hypertension, liver disease, alcohol dependence and diabetes. Patients with any medical conditions should talk to their doctors before taking **Revatol™**. Lactobacillus products (e.g., Probiotics) should be taken 2 or more hours apart.

## DRUG INTERACTIONS

It should be used cautiously in patients taking anticoagulants such as warfarin, aspirin, non-steroidal anti-inflammatory drugs (NSAIDS), ACE inhibitors or anti-platelet agents. Based on animal studies, grape seed may increase the risk of bleeding. PCOs may theoretically alter the effectiveness of prescribed blood pressure medications that are angiotensin converting enzyme (ACE) inhibitors.

## PREGNANCY AND LACTATION

Women who are pregnant or nursing are advised to consult with a physician prior to use **Revatol™**. Although medical literature has no report of adverse effects related to fetal development during pregnancy or to infants who are breast-fed.

## STORAGE

Store at cool and dry place below 30° C temperature away from direct sunlight & moisture. Keep the medicine out of the reach of children.

## HOW SUPPLIED

Each PET bottle contains 200 ml **Revatol™** syrup.

*Manufactured by*

**SQUARE PHARMACEUTICALS LTD.**

**AYURVEDIC DIVISION**

BSCIC, Pabna, Bangladesh

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