



Rex[®]

Beta carotene , Vitamin C , and Vitamin E
Antioxidant

COMPOSITION

Rex[®] Tablet : Each film coated tablet contains Beta carotene USP 6 mg, Vitamin C BP 200 mg and Vitamin E BP 50 mg.

PHARMACOLOGY

Beta carotene of Rex[®] tablet is converted to vitamin A (Retinol) when required. Retinol has several biochemical functions e.g. on retina, growth, tissue differentiation, immunological response. It has also some anti-cancer activity.

Vitamin C is the most powerful reducing agent known to be present in living tissues. Vitamin C deficiency produces scurvy. It is a cofactor in numerous biological processes. Vitamin C and molecular oxygen are essential for the conversion of proline to hydroxyproline, dopamine to noradrenaline . Vitamin C is also essential for the synthesis of adrenal steroid hormones. Vitamin C is important in the defense against infection and studies shown that vitamin C is important for the normal functioning of T-lymphocyte and leukocyte. Ascorbic acid has some antiinflammatory activity and protects cells against oxidation of essential molecules. In high doses, (1-2 g daily) ascorbic acid increases iron absorption.

The main role of tocopherol (vitamin E) seems to be as a defense against oxidative stress and lipid peroxidation. In most cell membranes there is one molecule of tocopherol for every 1000 lipid molecules. Tocopherol mops up peroxide radicals and then needs a supply of reduced hydrogen to restore the steady-state situation. This is usually supplied by ascorbic acid or reduced glutathione.

INDICATION

The active ingredients i.e. the antioxidants present in each Rex[®] tablet, namely Beta Carotene, Vitamin C & Vitamin E have been linked with reduced risks of cardiovascular diseases in human. All of these three antioxidant vitamins have also been linked with reduced risks of cataract.

Supplementation with Vitamin E shows to reduce the susceptibility of blood lipoproteins (the proteins that carry cholesterol in the blood) to oxidation, which is the major causative factor in the formation of atheromata in the walls of blood vessels. Vitamin E also helps protect the immune system and hence to combat infection and chronic diseases.

ANTIOXIDANT VITAMINS

Rex[®]

Vitamin E may also be of value in reversing the age-related trend toward decreased competence of the immune system, as well as other age-related degenerative changes.

Vitamin C plays an important part in the response of the body to stress. It is important in the defense against infection. Vitamin C possesses some anti-inflammatory activity and protects cells against oxidative damage to essential molecules. Vitamin C increases iron absorption.

The primary role of Vitamin E is the prevention of oxidation of polyunsaturated fatty acids. Vitamin E reacts with free radicals which are the cause of oxidative damage to cell membranes, without the formation of another free radical in the process.

DOSAGE AND ADMINISTRATION

Rex[®] tablet is administered orally. The adult dose of this combination of antioxidant vitamin tablet is 1(one) tablet daily or as prescribed by the physician.

CONTRAINDICATION AND PRECAUTION

Although human body converts Beta Carotene to Vitamin A only when required, yet excessive doses of Vitamin A should be avoided in pregnancy because of potential teratogenic effects. Patients with hypersensitivity to retinol should not take this preparation, although the possibility of such cases are occasional. Vitamin C in megadoses has been contraindicated for patients with hyperoxaluria. A pregnant woman taking more than 5 gm daily ascorbate may suffer fetal abortion. Higher doses of Vitamin C have been reported to cause failure of conception. In case of Vitamin E, there are no absolute contraindication.

SIDE EFFECT

Loose stools may occasionally occur during treatment with beta carotene and the skin may assume a slightly yellow discoloration. The toxic effects of vitamin A (after conversion of beta carotene to it) which are encountered are normally reversible and an irreversible toxic effect is effectively unknown. Chronic overdosage can lead to peeling and redness of the skin, disturbed hair growth, loss of appetite, and sickness.

Vitamin C is usually well tolerated. Large doses are reported to cause diarrhoea and other gastro-intestinal disturbances. It has also been stated

that doses may result in hyperoxaluria and the formation of renal calcium oxalate calculi and it should therefore be given with care to patients with hyperoxaluria.

Vitamin E is usually well tolerated. Large doses may cause diarrhoea, abdominal pain, and other gastro-intestinal disturbances, and have also been reported to cause fatigue and weakness.

DRUG INTERACTION

There is no potentially hazardous drug interactions with retinol (after conversion of beta carotene to it). Both cadmium and copper decreases retinol plasma levels. Among antibiotics, neomycin, and bleomycin reduces the absorption of retinol.

Vitamin C is incompatible in solution with aminophylline, bleomycin, erythromycin, lactobionate, nafcillin, nitrofurantoin sodium, conjugated oestrogens, sodium bicarbonate, sulphafurazole diethanolamine, chloramphenicol sodium succinate, chlorothiazide sodium and hydrocortisone sodium succinate. It increases the apparent half-life of paracetamol and enhances iron absorption from the gastro-intestinal tract.

USE IN PREGNANCY AND LACTATION

Vitamin A (retinol): Pregnant women : High doses should not be given in pregnancy *Lactating mothers* : High doses of retinol are best avoided by lactating mothers .

Vitamin C : Pregnant women : The drug is safe in normal doses in pregnant women, but a daily intake of 5 g or more is reported to have caused abortion. *Lactating mothers* : The drug may be taken safely during lactation.

Vitamin E : Pregnant women : The drug may be used in the normally recommended dose, but the safety of high-dose therapy has not been established. *Lactating mothers* : There appears to be no contraindication to breast-feeding by mothers taking the normally recommended dose.

STORAGE CONDITION

Should be stored in a dry place below 30°C.

HOW SUPPLIED

Rex® tablets : Each bottle contains 20 tablets in glass bottle.

