

# LUCAST

## Tablets

### Composition

#### Lucast 10 mg Tablets

Each tablet contains Montelukast (as sodium salt) 10 mg

#### Lucast 5 mg Chewable Tablets

Each Chewable tablet contains Montelukast (as sodium salt) 5 mg

### Action

The cysteinyl leukotrienes ( $LTC_4$ ,  $LTD_4$ ,  $LTE_4$ ), are potent inflammatory eicosanoids released from various cells including mast cells and eosinophils. These important pro-asthmatic mediators bind to cysteinyl leukotriene (CysLT) receptors. The CysLT type-1 ( $CysLT_1$ ) receptor is found in the human airway (including airway smooth muscle cells and airway macrophages) and on other pro-inflammatory cells (including eosinophils and certain myeloid stem cells). CysLTs have been correlated with the pathophysiology of asthma and allergic rhinitis. In asthma, leukotriene-mediated effects include a number of airway actions, including bronchoconstriction, mucous secretion, vascular permeability, and eosinophil recruitment. In allergic rhinitis, CysLTs are released from the nasal mucosa after allergen exposure during both early- and late-phase reactions and are associated with symptoms of allergic rhinitis. Intranasal challenge with CysLTs has been shown to increase nasal airway resistance and symptoms of nasal obstruction.

Montelukast is a potent, orally active compound that significantly improves parameters of asthmatic inflammation. Based on biochemical and pharmacological bioassays, it binds with high affinity and selectivity to the  $CysLT_1$  receptor (in preference to other pharmacologically important airway receptors such as the prostanoid, cholinergic, or  $\beta$ -adrenergic receptor). Montelukast potently inhibits physiologic actions of  $LTC_4$ ,  $LTD_4$ , and  $LTE_4$  at the  $CysLT_1$  receptor without any agonist activity.

### Pharmacokinetics

#### *Absorption and Distribution*

Montelukast is rapidly and nearly completely absorbed following oral administration. For the 10 mg film-coated tablet, the mean peak plasma concentration ( $C_{max}$ ) is achieved 3 hours ( $T_{max}$ ) after administration in adults in the fasted state. The oral bioavailability and  $C_{max}$  are not influenced by a standard meal.

For the 5 mg chewable tablet, the  $C_{max}$  is achieved 2 hours after administration in adults in the fasted state. Food does not have a clinically important influence with chronic administration. Montelukast is more than 99% bound to plasma proteins.

#### *Metabolism*

Montelukast is extensively metabolised. In studies with therapeutic doses, plasma concentrations of metabolites of montelukast are undetectable at steady state in adults and paediatric patients.

#### *Elimination*

The plasma clearance of Montelukast averages 45 ml/min in healthy adults. Montelukast and its metabolites are excreted almost exclusively via the bile.

#### *Characteristics in Patients*

Gender: The pharmacokinetics of Montelukast is similar in males and females.

Elderly: The pharmacokinetic profile and the oral bioavailability of a single 10 mg oral dose of montelukast are similar in elderly and younger adults. The plasma half-life of montelukast is slightly longer in the elderly. No dosage adjustment in the elderly is required.

Race: Pharmacokinetic differences due to race have not been studied. In clinical studies, there do not appear to be any differences in clinically important effects.

### *Hepatic Insufficiency*

Patients with mild-to-moderate hepatic insufficiency and clinical evidence of cirrhosis had evidence of decreased metabolism of montelukast resulting in approximately 41% higher mean montelukast area under the plasma concentration curve (AUC) following a single 10 mg dose. The elimination of montelukast is slightly prolonged compared with that in healthy subjects (mean half-life, 7.4 hours). No dosage adjustment is required in patients with mild-to-moderate hepatic insufficiency. There are no clinical data in patients with severe hepatic insufficiency (Child-Pugh score > 9).

### *Renal Insufficiency*

Since Montelukast and its metabolites are not excreted in the urine. No dosage adjustment is recommended in these patients.

### *Adolescents and Paediatric Patients*

The plasma concentration profile of Montelukast following the 10 mg film-coated tablet is similar in adolescents' ≥15 years old and young adults. The 10 mg film coated tablet is recommended for use in patients' ≥15 years old.

Pharmacokinetic studies using either the chewable tablet or film-coated tablet show that the plasma profile of the 5 mg chewable tablet in paediatric patients 6 to 14 years of age is similar to that of the 10 mg film-coated tablet in adults.

## **Indications**

- Lucast is indicated in adult and paediatric patients 2 years of age and older for the prophylaxis and chronic treatment of asthma, including the prevention of day- and night-time symptoms and the prevention of exercise-induced bronchospasm.
- Lucast is indicated in adults and paediatric patients 2 years of age and older for the relief of daytime and nighttime symptoms of seasonal allergic rhinitis and perennial allergic rhinitis.

## **Contraindications**

Hypersensitivity to any component of this product.

## **Adverse Reactions**

Hypersensitivity reactions (including anaphylaxis, angioedema, rash, pruritus, urticaria and very rarely hepatic eosinophilic infiltration); drowsiness, dizziness, irritability, agitation, restlessness, insomnia paraesthesia/hypoesthesia, and very rarely seizure; nausea, vomiting, dyspepsia, diarrhoea; increased ALT and AST, and very rarely cholestatic hepatitis; arthralgia, myalgia including muscle cramps; increased bleeding tendency, bruising; palpitations; and oedema.

## **Warnings and Precautions**

Please note that the Lucast 5 mg chewable tablets contain aspartame, which is a source of phenylalanine.

The efficacy of oral Montelukast for the treatment of acute asthma attacks has not been established. Therefore, oral Montelukast should not be used to treat acute asthma attacks. Patients should be advised to have appropriate rescue medication available.

While the dose of concomitant inhaled corticosteroid may be reduced gradually under medical supervision, Montelukast should not be abruptly substituted for inhaled or oral corticosteroids.

The reduction in systemic corticosteroid dose in patients receiving anti-asthma agents including leukotriene receptor antagonists has been followed in rare cases by the occurrence of one or more of the following: eosinophilia, vasculitic rash, worsening pulmonary symptoms, cardiac complications, and/or neuropathy sometimes diagnosed as Churg-Strauss syndrome, a systemic eosinophilic vasculitis. Although a causal relationship with leukotriene receptor antagonism has not been established, caution and appropriate clinical monitoring are recommended when systemic corticosteroid reduction is considered in patients receiving Montelukast.

### **Pregnancy**

#### *Category B*

Montelukast has not been studied in pregnant women. Montelukast should be used during pregnancy only if clearly needed.

### **Nursing Mothers**

It is not known if Montelukast is excreted in human milk. Because many medicines are excreted in human milk, caution should be exercised when Montelukast is given to a nursing mother.

### **Pediatric Use**

Montelukast has been studied in paediatric patients 2 to 14 years of age. Safety and effectiveness in paediatric patients younger than 2 years of age have not been studied. Studies have shown that Montelukast does not affect the growth rate of paediatric patients.

### **Elderly Use**

In clinical studies, there were no age-related differences in the efficacy or safety profiles of Montelukast.

### **Renal/Hepatic Impairment**

No dosage adjustment is required for patients with renal insufficiency or mild to moderate hepatic impairment.

### **Drug Interactions**

Lucast may be administered with other therapies routinely used in the prophylaxis and chronic treatment of asthma, and in the treatment of allergic rhinitis. The recommended clinical dose of Montelukast did not have clinically important effects on the pharmacokinetics of the following medicines: theophylline, prednisone, prednisolone, oral contraceptives (ethinyl estradiol/norethindrone 35/1), terfenadine, digoxin, and warfarin.

Montelukast was used concomitantly with a wide range of commonly prescribed medicines without evidence of clinical adverse interactions. These medications included thyroid hormones, sedative hypnotics, nonsteroidal anti-inflammatory agents, benzodiazepines, and decongestants.

The area under the plasma concentration-time curve (AUC) for Montelukast was decreased approximately 40% in subjects with co-administration of phenobarbital. No dosage adjustment for Montelukast is recommended.

Lucast may be taken with or without food. There are no data available on the use of Lucast and alcohol.

### **Dosage and Administration**

Lucast should be taken once daily. For asthma, the dose should be taken in the evening. For allergic rhinitis, the time of administration may be individualized to suit patient needs.

Patients with both asthma and allergic rhinitis should take only one tablet daily in the evening.

#### **Adult and adolescents 15 years age and older**

For asthma, take one 10 mg tablet daily in the evening. For seasonal allergic rhinitis, take one 10 mg daily according to doctor instructions.

#### **For children 6 to 14 years of age**

For treatment of asthma or seasonal allergic rhinitis, take one 5 mg chewable tablet daily.

*Lucast 10 mg tablets:* Do not chew! Swallow the tablet with some water and without regard for meals. *Lucast 5 mg chewable tablets:* Chew the tablet with some water and without regard for meals

### **General Recommendations**

The therapeutic effect of Lucast on parameters of asthma control occurs within one day. Lucast may be taken with or without food. Patients should be advised to continue taking Lucast while their asthma is controlled, as well as during periods of worsening asthma.

No dosage adjustment is necessary for pediatric patients, for the elderly, for patients with renal insufficiency, or mild-to-moderate hepatic impairment, or for patients of either gender.

#### **Therapy with Lucast in Relation to Other Treatments for Asthma**

Lucast can be added to a patient's existing treatment regimen.

#### **Reduction in Concomitant Therapy**

*Bronchodilator Treatments:* Lucast can be added to the treatment regimen of patients who are not adequately controlled on bronchodilator alone. When a clinical response is evident (usually after the first dose), the patient's bronchodilator therapy can be reduced as tolerated.

*Inhaled Corticosteroids:* Treatment with Lucast provides additional clinical benefit to patients treated with inhaled corticosteroids. A reduction in the corticosteroid dose can be made as tolerated. The dose should be reduced gradually with medical supervision. In some patients, the dose of inhaled corticosteroids can be tapered off completely. Lucast should not be abruptly substituted for inhaled corticosteroids.

*Oral Corticosteroids:* Limited data suggest that Lucast may provide additional clinical benefit in patients with oral corticosteroids.

#### **Presentation**

##### **Lucast 10 mg Tablets**

Box of 30 tablets

##### **Lucast 5 mg Chewable Tablets**

Box of 30 tablets