

# Summary of Product Characteristics

## 1 NAME OF THE MEDICINAL PRODUCT

Hidrasec 100 mg hard capsules

## 2 QUALITATIVE AND QUANTITATIVE COMPOSITION

Each capsule contains 100 mg of racecadotril.

### Excipient(s) with known effect

Each capsule contains 41 mg lactose monohydrate.

For a full list of excipients, see section 6.1.

## 3 PHARMACEUTICAL FORM

Capsule, hard.

Ivory coloured capsules. Size 2, containing a white powder with a sulphur odour.

## 4 CLINICAL PARTICULARS

### 4.1 Therapeutic indications

Hidrasec is indicated for the symptomatic treatment of acute diarrhoea in adults when causal treatment is not possible. If causal treatment is possible, racecadotril can be administered as a complementary treatment.

### 4.2 Posology and method of administration

For adults only:

One capsule initially regardless of the time of day. Then, one capsule three times daily preferably before the main meals. Treatment should be continued until two normal stools are recorded. Treatment should not exceed 7 days.

### Special populations:

Elderly: Dosage adjustment is not necessary in the elderly (see section 5.2). Caution is advised in patients with hepatic or renal impairment.

### 4.3 Contraindications

Hypersensitivity to the active substance or to any of the excipients (see section 6.1).

### 4.4 Special warnings and precautions for use

#### Rehydration (including vomiting and diarrhoea)

The administration of racecadotril does not modify the usual rehydration regimens.

The presence of bloody or purulent stools and fever may indicate the presence of invasive bacteria as a reason for diarrhoea, or the presence of other severe disease.

Also, racecadotril has not been tested in antibiotic-associated diarrhoea, therefore, racecadotril should not be administered under these conditions.

There is a possible reduced availability in patients with prolonged vomiting.

Chronic diarrhoea has not been sufficiently studied with this medicinal product.

### Hypersensitivity

Occurrence of skin reactions has been reported with the use of the product. These are in most cases mild and do not require treatment but in some cases they can be severe, even life-threatening. Association with racecadotril cannot be fully excluded. When experiencing severe skin reactions, the treatment has to be stopped immediately.

#### Angioedema

Angioedema of the face, extremities, lips, mucous membranes may occur during racecadotril treatment.

This angioedema can be allergic (mast cell mediator-induced angioedema), or non-allergic (bradykinin-mediated angioedema).

The combination of racecadotril with medicinal products which increase the concentration of bradykinin, in particular Angiotensin-Converting Enzyme (ACE) inhibitors, increases the risk of bradykinin-mediated angioedema (see section 4.5). Therefore, a careful risk/benefit assessment is required before initiating the treatment with racecadotril in patients on ACE inhibitors (see section 4.5).

If upper airway obstruction, emergency therapy should be administered whatever the aetiology of angioedema, as the outcome of this condition can be fatal.

If angioedema occurs, racecadotril should be discontinued, and the patient should be under close medical supervision until complete and sustained resolution of symptoms. Racecadotril should not be reintroduced.

#### Severe cutaneous adverse reactions (SCARs):

Severe cutaneous adverse reactions (SCARs) including drug reaction with eosinophilia and systemic symptoms (DRESS), which can be life-threatening or fatal, have been reported in association with racecadotril treatment. Patients should be advised of the signs and symptoms and monitored closely for skin reactions. If signs and symptoms suggestive of DRESS appear, racecadotril should be withdrawn immediately and an alternative treatment considered. If the patient has developed DRESS with the use of racecadotril, treatment with racecadotril must not be restarted in these patients at any time.

#### Renal or hepatic impairment

There are limited data in patients with renal or hepatic impairment. These patients should be treated with caution (see section 5.2).

#### Excipients

This medicinal product contains lactose. Patients with rare hereditary problems of galactose intolerance, The Lapp lactase deficiency or glucose-galactose malabsorption should not take this medicine.

### **4.5 Interaction with other medicinal products and other forms of interaction**

#### Bradykinin-mediated angioedema

Certain drugs or classes of drugs may cause a vascular reaction such as angioedema of the face and neck, resulting from inhibition of bradykinin degradation. The most frequently implicated drugs are ACE inhibitors, and to a lesser extent: angiotensin II antagonists, mammalian target of rapamycin inhibitors (mTORi) immunosuppressants, antidiabetic drugs of the gliptin class, racecadotril, estramustine, sacubitril and recombinant alteplase.

Concomitant use of racecadotril and other drugs known to cause bradykinin-mediated angioedema may increase the risk of angioedema and are not recommended (see section 4.4).

### **4.6 Fertility, pregnancy and lactation**

#### Fertility:

Fertility studies conducted with racecadotril on Rats demonstrate no impact on fertility.

#### Pregnancy:

There are no adequate data from the use of racecadotril in pregnant women. Animal studies do not indicate direct or indirect harmful effects with respect to pregnancy, **fertility**, embryo-foetal development, childbirth/delivery or postnatal development. However, since no specific clinical studies are available, racecadotril should not be administered to pregnant women.

#### Lactation:

Due to lack of information on the excretion of racecadotril in human milk; this medicinal product should not be administered to breastfeeding women

### **4.7 Effects on ability to drive and use machines**

Racecadotril has no or negligible influence on the ability to drive and use machines.

#### 4.8 Undesirable effects

Data from clinical acute diarrhoea studies are available for 2193 adult patients treated with racecadotril and 282 treated with placebo. The following adverse drug reactions listed below have occurred with racecadotril more often than with placebo or have been reported during post-marketing surveillance. The frequency of adverse reactions is defined using the following convention: very common ( $\geq 1/10$ ), common ( $\geq 1/100$  to  $< 1/10$ ), uncommon ( $\geq 1/1,000$  to  $< 1/100$ ), rare ( $\geq 1/10,000$  to  $< 1/1,000$ ), very rare ( $< 1/10,000$ ), not known (cannot be estimated from the available data).

Severe cutaneous adverse reactions (SCARs) including drug reaction with eosinophilia and systemic symptoms (DRESS) have been reported in association with racecadotril treatment (see section 4.4).

| System Organ Class  | Frequency | Adverse reactions  |
|---|-----------|--|
| Nervous system disorders                                    | Common    | headache   |
| Skin and subcutaneous tissue disorders<br>(see section 4.4) | Uncommon  | rash, erythema   |
|   | Unknown   | erythema multiforme, tongue oedema, face oedema, lip oedema, eyelid oedema, angioedema, urticaria, erythema nodosum, rash papular, prurigo, pruritus, toxic skin eruption, drug reaction with eosinophilia and systemic symptoms (DRESS) |
| Immune system disorder                                      | Unknown   | Anaphylactic shock   |

#### Reporting of suspected adverse reactions

Reporting suspected adverse reactions after authorisation of the medicinal product is important. It allows continued monitoring of the benefit/risk balance of the medicinal product. Healthcare professionals are asked to report any suspected adverse reactions via

HPRA Pharmacovigilance

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Tel: +353 1 6764971

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Website: [www.hpra.ie](http://www.hpra.ie)

e-mail: [medsafety@hpra.ie](mailto:medsafety@hpra.ie)

#### 4.9 Overdose

No cases of overdose have been reported. In adults, single doses above 2 g, which is equivalent to 20 times the therapeutic dose, have been administered, and no harmful effects have been described.

### 5 PHARMACOLOGICAL PROPERTIES

#### 5.1 Pharmacodynamic properties

Pharmacotherapeutic group: Other antidiarrhoeals.

ATC code: A07XA04

Racecadotril is a prodrug that needs to be hydrolysed to its active metabolite thiorphan, which is an inhibitor of enkephalinase, a cell membrane peptidase located in various tissues, notably the epithelium of the small intestine.

This enzyme contributes both to the hydrolysis of exogenous peptides and to the breakdown of endogenous peptides such as enkephalins.

Racecadotril protects enkephalins from enzymatic degradation thereby prolonging their action at enkephalinergic synapses in the small intestine and reducing hypersecretion.

Racecadotril is a pure intestinal antisecretory active substance. It decreases the intestinal hypersecretion of water and electrolytes induced by cholera toxin or inflammation, and does not have effects on basal secretory activity. Racecadotril exerts rapid antidiarrhoeal action, without modifying the duration of intestinal transit.

Racecadotril does not produce abdominal distension. During its clinical development, racecadotril produced secondary constipation at a rate comparable to placebo.

When administered via the oral route, its activity is exclusively peripheral, with no effects on the central nervous system.

A randomized crossover study demonstrated that racecadotril 100mg capsule at therapeutic dose (1 capsule) or at supratherapeutic dose (4 capsules) did not induce QT/QTc prolongation in 56 healthy volunteers (at the opposite of moxifloxacin, used as a positive control).

## 5.2 Pharmacokinetic properties

### Absorption:

Following oral administration, racecadotril is rapidly absorbed.

The exposure at steady state is comparable with the exposure following a single dose.

The bioavailability of racecadotril is not modified by food, but peak activity is delayed by about one hour and a half.

### Distribution:

After oral administration of <sup>14</sup>C-labeled racecadotril in healthy volunteers, racecadotril concentration was more than 200 fold higher in plasma than in blood cells and 3-fold higher in plasma than in total blood. Thus, the drug did not bind to blood cells to any significant extent.

Radiocarbon distribution in other body tissues was moderate, as indicated by the mean apparent volume of distribution in plasma of 66.4 kg.

Ninety percent of the active metabolite of racecadotril, **thiorphan** = (RS)-N-(1-oxo-2-(mercaptomethyl)-3-phenylpropyl) glycine, is bound to plasma proteins, mainly to albumin.

The duration and extent of the effect of racecadotril are dose-dependent. Time to peak plasma enkephalinase inhibition is approximately 2 hours and corresponds to 75% inhibition with the dose of 100 mg. with a dose of 100 mg; the duration of plasma enkephalinase inhibition is about 8 hours.

### Metabolism:

The biological half-life of racecadotril, measured as plasma enkephalinase inhibition, is approximately 3 hours. Racecadotril is rapidly hydrolysed to thiorphan (RS)-N-(1-oxo-2-(mercaptomethyl)-3-phenylpropyl) glycine, the active metabolite, which is in turn transformed into inactive metabolites identified as sulfoxide of S-methylthiorphan, S-methyl thiorphan, 2-methanesulfinylmethyl propionic acid and 2-methylsulfonylmethyl propionic acid, which all were formed at greater than 10% of parent drug systemic exposure.

Additional minor metabolites were also detected and quantified in urine and faeces.

Repeated administration of racecadotril does not cause any accumulation in the body.

In vitro data indicate that racecadotril/thiorphan and the four major inactive metabolites do not inhibit the major CYP enzymes isoforms 3A4, 2D6, 2C9, 1A2 and 2C19 to an extent that would be clinically relevant.

In vitro data indicate that racecadotril/thiorphan and the four major inactive metabolites do not induce the CYP enzymes isoforms (3A family, 2A6, 2B6, 2C9/2C19, 1A family, 2E1) and UGTs conjugating enzymes to an extent that would be clinically relevant.

Racecadotril does not modify protein binding of active substances strongly bound to proteins, such as tolbutamide, warfarin, niflumic acid, digoxin or phenytoin.

In patients with liver failure [cirrhosis, grade B of the Child-Pugh classification], the kinetic profile of the active metabolite of racecadotril showed similar T<sub>max</sub> and T<sub>1/2</sub> and lesser C<sub>max</sub> (-65%) and AUC (-29%) as compared to healthy subjects.

In patients with severe renal failure (creatinine clearance 11-39 ml/min), the kinetic profile of the active metabolite of racecadotril showed smaller C<sub>max</sub> (-49%) and greater AUC (+16%) and T<sub>1/2</sub> as compared to healthy volunteers (creatinine clearance >70 ml/min).

In the paediatric population, pharmacokinetic results are similar to those of the adult population, reaching C<sub>max</sub> at 2 hours 30 min after administration. There is no accumulation after multiple dose administered every 8 hours, for 7 days.

#### Excretion:

Racecadotril is eliminated as active and inactive metabolites. Elimination is mainly via the renal route (81.4%), and to a much lesser extent via the faecal route (around 8%). The pulmonary route is not significant (less than 1% of the dose).

### **5.3 Preclinical safety data**

Chronic 4-week toxicity studies in monkeys and dogs, relevant for the duration of treatment in human, do not point out any effect at doses up to 1250 mg/kg/day and 200 mg/kg, respectively corresponding to safety margins of 625 and 62 (vs human). Racecadotril was not immunotoxic in mice given racecadotril for up to 1 month. Longer exposure (1 year) in monkeys showed generalized infections and reduced antibody responses to vaccination at a 500 mg/kg/day dose and no infection/immune depression at 120 mg/kg/day. Similarly in the dog receiving 200 mg/kg/day for 26 weeks some infection/immune parameters were affected. The clinical relevance is unknown see section 4.8.

No mutagenic or clastogenic effect of racecadotril has been found in the standard *in vitro* and *in vivo* tests.

Carcinogenicity testing has not been performed with racecadotril as the drug is provided for short-term treatment.

Reproductive and developmental toxicity (fertility and early embryonic development, prenatal and postnatal development including maternal function, embryo-foetal development studies) revealed no special effects of racecadotril.

Other preclinical effects (e.g., severe, most likely aplastic anaemia, increased diuresis, ketonuria, diarrhoea,) were observed only at exposures considered sufficiently in excess of the maximum human exposure. Their clinical relevance is unknown.

Other safety pharmacology studies did not evidence any deleterious effects of racecadotril on the central nervous system, the cardiovascular and the respiratory functions.

In animals, racecadotril reinforced the effects of butylhyoscine upon bowel transit and on the anticonvulsive effects of phenytoin.

## **6 PHARMACEUTICAL PARTICULARS**

### **6.1 List of excipients**

#### Powder

Lactose monohydrate  
Pregelatinised starch (maize)  
Magnesium stearate  
Colloidal anhydrous silica

#### Capsule

Yellow iron oxide (E172)  
Titanium dioxide (E171)  
Gelatin

### **6.2 Incompatibilities**

Not applicable.

### **6.3 Shelf life**

3 years

### **6.4 Special precautions for storage**

This medicinal product does not require any special storage conditions.

#### **6.5 Nature and contents of container**

PVC-PVDC/ Aluminium blister.

Packs containing 6, 10, 20 and 100 capsules (Hospital use) and 500 capsules (Hospital use).

Not all pack sizes may be marketed.

#### **6.6 Special precautions for disposal and other handling**

No special requirements for disposal.

### **7 MARKETING AUTHORISATION HOLDER**

Bioproject Europe Ltd

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Dublin 2

Ireland

### **8 MARKETING AUTHORISATION NUMBER**

PA1714/001/001

### **9 DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION**

Date of first authorisation: 11th May 2012

Date of last renewal: 3rd January 2016

### **10 DATE OF REVISION OF THE TEXT**

May 2025