1.3.1.1 PROFESSIONAL INFORMATION FOR MEDICINES FOR HUMAN USE

SCHEDULING STATUS

S4

PROPRIETARY NAME AND DOSAGE FORM

PREZISTA 75 mg (film-coated tablet)

PREZISTA 150 mg (film-coated tablet)

COMPOSITION

Each film-coated tablet of PREZISTA 75 mg contains 75 mg of darunavir as darunavir ethanolate.

Excipients:

Colloidal anhydrous silica, crospovidone, macrogol, magnesium stearate, microcrystalline cellulose, polyvinyl alcohol, talc, titanium dioxide

Sugar free

Each film-coated tablet of PREZISTA 150 mg contains 150 mg of darunavir as darunavir ethanolate.

Excipients:

Colloidal anhydrous silica, crospovidone, macrogol, magnesium stearate, microcrystalline cellulose, polyvinyl alcohol, talc, titanium dioxide

Sugar free

CATEGORY AND CLASS

A 20.2.8 Antiviral agents

PHARMACOLOGICAL ACTION

Pharmacodynamic properties

Mechanism of action

Darunavir is an inhibitor of the HIV-1 protease. It selectively inhibits the cleavage of HIV-encoded Gag-Pol polyproteins in virus-infected cells, thereby preventing the formation of mature infectious virus particles. Darunavir binds tightly to the HIV-1 protease.

Antiviral activity in-vitro

Darunavir exhibited activity against laboratory strains and clinical isolates of HIV-1 and laboratory strains of HIV-2 in acutely infected T-cell lines, human peripheral blood mononuclear cells and human monocytes/macrophages *in-vitro* with median EC_{50} values ranging from 1,2 to 8,5 nM (0,7 to 5,0 ng/ml). Darunavir demonstrated antiviral activity *in-vitro* against a broad panel of HIV-1 group M (A, B, C, D, E, F, G) and group O primary isolates with EC_{50} values ranging from < 0,1 to 4,3 nM. These EC_{50} values are well below the 50 % cellular toxicity concentration range of 87 µM to > 100 µM

The EC_{50} value of darunavir increases by a median factor of 5,4 in the presence of human serum. Darunavir showed synergistic antiviral activity when studied in combination with the protease inhibitors ritonavir, nelfinavir, or amprenavir and additive antiviral activity when studied in combination with the protease inhibitors indinavir, saquinavir, lopinavir, atazanavir, or tipranavir, the N(t)RTIs zidovudine, lamivudine, zalcitabine, didanosine, stavudine, abacavir, emtricitabine, or tenofovir, the NNRTIs nevirapine, delavirdine, or

efavirenz and the fusion inhibitor enfuvirtide. No antagonism was observed between darunavir and any of those antiretrovirals.

Resistance in-vitro

In-vitro darunavir-resistant virus isolates from wild type HIV-1 were selected. Viruses showing decreased susceptibility to darunavir (range: 6-21-fold) harboured three to six amino acid substitutions in the protease gene. Determinants of decreased susceptibility to darunavir in those viruses have not been identified.

In-vitro selection of darunavir-resistant HIV-1 (range: 53-641-fold change in EC_{50} values) from nine HIV-1 strains harbouring multiple PI (protease inhibitor) resistance-associated mutations resulted in the overall emergence of 22 mutations in the protease, of which L10F, V32I, L33F, S37N, M46I, I47V, I50V, L63P, A71V and I84V were present in more than 50 % of the nine darunavir-resistant isolates. A minimum of eight of these darunavir *in-vitro* selected mutations, at least two of which were already present in the protease prior to selection, were required in the HIV-1 protease to render a virus resistant (fold change [FC] > 10) to darunavir.

In 1 113 clinical isolates resistant to at least one protease inhibitor and in 886 baseline isolates from the patients enrolled in the clinical trials only the subgroups with > 10 PI resistance-associated mutations showed a median FC for darunavir > 10.

Cross-resistance in-vitro

Cross-resistance has been observed among HIV protease inhibitors. Darunavir has a < 10-fold decreased susceptibility against 90 % of 3 309 clinical isolates resistant to at least one protease inhibitor.

Cross-resistance between darunavir and the nucleoside/nucleotide reverse transcriptase inhibitors, the non-nucleoside reverse transcriptase inhibitors or the fusion inhibitor, is unlikely because the viral targets for those inhibitors are different.

Pharmacokinetic properties

The pharmacokinetic properties of darunavir, co-administered with ritonavir, have been evaluated in healthy adult volunteers and in HIV-1-infected patients. Exposure to darunavir was higher in HIV-1-infected patients than in healthy subjects. The increased exposure to darunavir in HIV-1-infected patients compared to healthy subjects may be explained by the higher concentrations of alpha-1-acid glycoprotein (AAG) in HIV-1 infected patients, resulting in higher darunavir binding to plasma AAG and, therefore, higher plasma concentrations.

Darunavir is primarily metabolised by CYP3A. Ritonavir inhibits CYP3A, thereby increasing the plasma concentrations of darunavir considerably.

Absorption

Darunavir was rapidly absorbed following oral administration. Maximum plasma concentration of darunavir in the presence of low-dose ritonavir is generally achieved within 2,5 to 4,0 hours. The absolute oral bioavailability of a single 600 mg dose of darunavir alone was approximately 37 % and increased to approximately 82 % in the presence of 100 mg twice daily ritonavir.

The overall pharmacokinetic enhancement effect by ritonavir was an approximate 14-fold increase in the systemic exposure of darunavir when a single dose of 600 mg darunavir was given orally in combination with ritonavir at 100 mg twice daily (WARNINGS AND SPECIAL PRECAUTIONS).

When administered without food, the relative bioavailability of darunavir in the presence of low-dose ritonavir is 30 % lower as compared to intake with food. Therefore, darunavir tablets should be taken with ritonavir and with food. The type of food does not affect exposure to darunavir.

Distribution

Darunavir is approximately 95 % bound to plasma protein. Darunavir binds primarily to plasma alpha-1-acid glycoprotein.

Metabolism

In-vitro experiments with human liver microsomes (HLMs) indicate that darunavir primarily undergoes oxidative metabolism. Darunavir is extensively metabolised by the hepatic CYP system and almost exclusively by isozyme CYP3A4. A ^{14}C-darunavir trial in healthy volunteers showed that a majority of the radioactivity in plasma after a single 400/100 mg darunavir/rtv dose was due to the parent drug. At least 3 oxidative metabolites of darunavir have been identified in humans; all showed activity that was at least 10-fold less than the activity of darunavir against wild type HIV.

Elimination

After a 400/100 mg ^{14}C-darunavir/rtv dose, approximately 79,5 % and 13,9 % of the administered dose of ^{14}C-darunavir could be retrieved in faeces and urine, respectively. Unchanged darunavir accounted for approximately 41,2 % and 7,7 % of the administered dose in faeces and urine respectively. The terminal elimination half-life of darunavir was approximately 15 hours when combined with ritonavir. The intravenous clearance of darunavir alone (150 mg) and in the presence of low-dose ritonavir was 32,8 l/h and 5,9 l/h, respectively.

Special populations

Paediatrics

The pharmacokinetics of darunavir in combination with ritonavir in 74 treatment-experienced paediatric patients, aged 6 to < 18 years and weighing at least 20 kg, showed that the administered weight-based dosages resulted in darunavir exposure comparable to that in adults receiving PREZISTA/rtv 600/100 mg twice daily. Median (range) darunavir AUC_{12h} and C_{0h} values in this paediatric population were 63,670 (33,527; 115,360) ng.h/ml and 3,888 (1,836; 7,821) ng.h/ml, respectively.

Elderly

Population pharmacokinetic analysis in HIV-infected patients showed that darunavir pharmacokinetics are not much different in the age range (18 to 75 years) evaluated in HIV-infected patients (n=12, age ≥ 65) (see WARNINGS AND SPECIAL PRECAUTIONS).

Gender

Population pharmacokinetic analysis showed a slightly higher darunavir exposure (16,8 %) in HIV-infected females compared to males. This difference is not clinically relevant.

Renal impairment

Results from a mass balance study with ^{14}C-darunavir/rtv showed that approximately 7,7 % of the administered dose of darunavir is excreted in the urine as unchanged drug. Darunavir has not been studied in patients with renal impairment.

Hepatic impairment

Darunavir is primarily metabolised and eliminated by the liver. In a multiple dose study with darunavir co-administered with ritonavir (600/100 mg) twice daily, it was demonstrated that

the steady-state pharmacokinetic parameters of darunavir in subjects with mild (Child-Pugh Class A, n=8) hepatic impairment were comparable with those in healthy subjects. In moderate hepatic impairment (Child-Pugh Class B, n=8) the mean C_{max} was increased by 22 %, the AUC by 20 % and the C_{min} by 27 % after multiple doses. The effect of severe hepatic impairment on the pharmacokinetics of darunavir has not been studied (see DOSAGE AND DIRECTIONS FOR USE and WARNINGS AND SPECIAL PRECAUTIONS).

INDICATIONS

Paediatric patients

PREZISTA, in combination with low dose ritonavir (PREZISTA/rtv) and with other antiretroviral agents, is indicated for the treatment of HIV-infection in antiretroviral treatment-experienced paediatric patients of 6 years to < 18 years.

Treatment history, and when available, genotypic or phenotypic testing, should guide the use of PREZISTA/rtv.

CONTRAINDICATIONS

- Hypersensitivity to darunavir or to any of the excipients of PREZISTA.
- Children below the age of 3 years (see WARNINGS AND SPECIAL PRECAUTIONS).
- The presence of a contraindication to ritonavir.

Darunavir and ritonavir are both inhibitors of the cytochrome P450 3A4 (CYP3A4) isoform. PREZISTA/rtv should not be co-administered with medicinal products that are highly dependent on CYP3A4 for clearance and for which increased plasma concentrations are associated with serious and/or life-threatening events (narrow therapeutic index). These medicinal products are included in the table below:

Medicines that are contraindicated with PREZISTA/rtv

Medicine Class: Medicine Name	Clinical Comment
Anticonvulsants: Carbamazepine, Phenobarbital, Phenytoin	Carbamazepine, phenobarbital and phenytoin are inducers of CYP450 enzymes. PREZISTA/rtv should not be used in combination with phenobarbital, phenytoin, or carbamazepine as co-administration may cause significant decreases in darunavir plasma concentrations. This may result in loss of the therapeutic effect of PREZISTA (see INTERACTIONS).
Antimycobacterial: Rifampicin	Rifampicin is a potent inducer of CYP450 metabolism. PREZISTA/rtv should not be used in combination with rifampicin, as this may cause significant decreases in darunavir plasma concentrations. This may result in loss of therapeutic effect to PREZISTA (see INTERACTIONS).
PDE-5 inhibitors: Sildenafil - when intended for the treatment of pulmonary arterial hypertension.	A safe and effective dose of sildenafil for the treatment of pulmonary arterial hypertension has not been established. There is an increased potential for sildenafil-associated adverse events (including visual disturbances, hypotension, prolonged erection and syncope).
Alpha 1-adrenoreceptor antagonist: Alfuzosin	Potential for serious and/or life-threatening reactions such as hypotension.
Ergot Derivatives: Dihydroergotamine, Ergonovine, Ergotamine, Methylergonovine	CONTRAINDICATED due to potential for serious and/or life-threatening reactions such as acute ergot toxicity characterised by peripheral vasospasm and ischaemia of the extremities and other tissues.

Herbal Products: St. John's wort (*Hypericum perforatum*)	PREZISTA/rtv should not be used concomitantly with products containing St. John's wort (*Hypericum perforatum)* because co-administration may cause significant decreases in darunavir plasma concentrations. This may result in loss of therapeutic effect to PREZISTA (see INTERACTIONS).
HMG-CoA Reductase Inhibitors: Lovastatin, Simvastatin	Potential for serious reactions such as risk of myopathy including rhabdomyolysis.
Neuroleptic: Pimozide	CONTRAINDICATED due to the potential for serious and/or life-threatening reactions such as cardiac dysrhythmia.
Sedatives/Hypnotics: Midazolam, Triazolam	CONTRAINDICATED due to potential for serious and/or life-threatening reactions such as prolonged or increased sedation or respiratory depression.
Antifungals: Ketoconazole, Itraconazole and Voriconazole	CONTRAINDICATED because concomitant systemic use of ketoconazole, itraconazole or voriconazole and PREZISTA/rtv may increase plasma concentrations of darunavir. Simultaneously, plasma concentrations of ketoconazole or itraconazole may be increased by PREZISTA/rtv, while the plasma concentrations of voriconazole may be decreased in the presence of PREZISTA/rtv (see INTERACTIONS).
Buprenorphine/ naloxone:	The results of an interaction trial with PREZISTA/rtv and buprenorphine/naloxone demonstrated that buprenorphine exposure was not affected when buprenorphine/naloxone was administered with PREZISTA/rtv. Exposure of the active metabolite, norbuprenorphine, increased by 46 %. No dose adjustment for buprenorphine was required. Careful clinical

	monitoring is recommended if PREZISTA/rtv and buprenorphine are co-administered (see INTERACTIONS).

WARNINGS AND SPECIAL PRECAUTIONS

PREZISTA should not be used in patients with severe hepatic impairment (see DOSAGE AND DIRECTIONS FOR USE).

General

PREZISTA must be co-administered with ritonavir and food every day to exert its therapeutic effect (see DOSAGE AND DIRECTIONS FOR USE). The type of food does not affect exposure to PREZISTA. Failure to correctly administer PREZISTA with ritonavir and food will result in reduced plasma concentrations of darunavir that will be insufficient to achieve the desired antiviral effect. Patients should be instructed to swallow whole tablets with a drink such as water or milk. PREZISTA must always be used with 100 mg of ritonavir in combination with other antiretroviral medicines. Patients should not alter the dose of either PREZISTA or ritonavir, discontinue ritonavir, or discontinue therapy with PREZISTA without consulting their medical practitioner. If a patient misses a dose of PREZISTA or ritonavir by more than 6 hours, the patient should be told to wait and then take the next dose of PREZISTA and ritonavir at the regularly scheduled time. If the patient misses a dose of PREZISTA or ritonavir by less than 6 hours, the patient should be told to take PREZISTA and ritonavir immediately, and then take the next dose of PREZISTA and ritonavir at the regularly scheduled time. If a dose of PREZISTA or ritonavir is skipped, the patient should not double the next dose. Inform the patient that he or she should not take more or less than the prescribed dose of PREZISTA or ritonavir at any one time.

Please refer to ritonavir prescribing information for additional information on precautionary

measures.

Skin rash

During the clinical development program, severe skin reactions, which may be accompanied with fever and/or elevations of transaminases, have been reported. Stevens-Johnson Syndrome has been reported; and during post-marketing experience toxic epidermal necrolysis has been also reported. Discontinue PREZISTA immediately if signs or symptoms of severe skin reactions develop. These can include but are not limited to severe rash or rash accompanied with fever, general malaise, fatigue, muscle or joint aches, blisters, oral lesions, conjunctivitis, hepatitis and/or eosinophilia.

Rash (all grades, regardless of causality) occurred in 10,3 % of patients treated with PREZISTA. Rash was mostly mild to moderate, often occurring within the first four weeks of treatment and usually resolving with continued dosing. The discontinuation rate due to rash in patients using PREZISTA/rtv was 0,5 %.

Rash occurred more commonly in treatment-experienced subjects receiving regimens containing PREZISTA/rtv + raltegravir compared to subjects receiving PREZISTA/rtv without raltegravir or raltegravir without PREZISTA/rtv. However, rash that was considered treatment-related occurred at similar rates for all three groups. These rashes were mild to moderate in severity and did not limit therapy; there were no discontinuations due to rash.

Sulpha allergy

Darunavir contains a sulphonamide moiety. PREZISTA should be used with caution in patients with a known sulphonamide allergy.

Interactions

PREZISTA and ritonavir are both inhibitors of CYP3A. Co-administration of PREZISTA/rtv with medicines primarily metabolised by CYP3A may result in increased plasma concentrations of such medicines, which could increase or prolong their therapeutic effect and adverse events (see CONTRAINDICATIONS and INTERACTIONS).

Diabetes mellitus/Hyperglycaemia

New onset diabetes mellitus, exacerbation of pre-existing diabetes mellitus, and hyperglycaemia have been reported during post-marketing surveillance in HIV-infected patients receiving PREZISTA. Some patients required either initiation or dose adjustments of insulin or oral hypoglycaemic medicines for treatment of these events. In some of these patients the hyperglycaemia was severe, and in some cases, diabetic ketoacidosis has occurred. In those patients who discontinued PREZISTA, hyperglycaemia persisted in some cases. Because these events have been reported voluntarily during clinical practice, estimates of frequency cannot be made and causal relationships between PREZISTA and these events have not been established. Many patients had confounding medical conditions, some of which required therapy with medicines that have been associated with the development of diabetes mellitus or hyperglycaemia.

Oestrogen-based contraceptives

Plasma concentrations of ethinylestradiol are decreased by induction of its metabolism by ritonavir and alternative methods of non-hormonal contraception are recommended. (see INTERACTIONS).

Patients should be advised that current antiretroviral therapy does not cure HIV and has not been proven to prevent the transmission of HIV, and that patients may continue to develop opportunistic infections and other complications associated with HIV disease. Appropriate precautions should continue to be employed.

Patients should be told that sustained decreases in plasma HIV RNA have been associated with a reduced risk of progression to AIDS and death. Patients should remain under the care of a medical practitioner while using PREZISTA.

PREZISTA/rtv should not be used in children below 3 years of age in view of toxicity observed in juvenile rats dosed with darunavir (from 20 mg/kg to 1 000 mg/kg) up to days 23 to 26 of age, (see CONTRAINDICATIONS).

The safety and efficacy of PREZISTA/rtv in antiretroviral treatment-experienced children aged 3 to < 6 years and in antiretroviral treatment-naïve paediatric patients have not been established.

Elderly: As limited information is available on the use of PREZISTA/rtv in patients aged 65 and over, caution should be exercised in the administration of PREZISTA in elderly patients, reflecting the greater frequency of decreased hepatic function and of concomitant disease or other therapy (see Pharmacokinetic properties).

The overall pharmacokinetic enhancement effect of ritonavir was an approximate 14-fold increase in the systemic exposure of darunavir when a single dose of 600 mg PREZISTA was given orally in combination with ritonavir at 100 mg twice daily. Therefore, PREZISTA should only be used in combination with low-dose ritonavir as a pharmacokinetic enhancer (see Pharmacokinetic properties). Increasing the dose of ritonavir did not significantly affect darunavir concentrations and is not recommended.

Patients with co-existing conditions

Hepatic impairment

There are no data regarding the use of PREZISTA/rtv when co-administered to patients with severe hepatic impairment; therefore, PREZISTA should not be used. No dose adjustment is required in patients with mild or moderate hepatic impairment (see DOSAGE AND DIRECTIONS FOR USE and Pharmacokinetic properties).

Hepatotoxicity

Medicine-induced hepatitis (e.g. acute hepatitis, cytolytic hepatitis) has been reported with PREZISTA/rtv. Patients with pre-existing liver dysfunction, including chronic active hepatitis B or C, have an increased risk for liver function abnormalities including severe hepatic adverse events.

Appropriate laboratory testing should be conducted prior to initiating therapy with PREZISTA/rtv and patients should be monitored during treatment. Increased AST/ALT monitoring should be considered in patients with underlying chronic hepatitis, cirrhosis, or in patients who have pre-treatment elevations of transaminases, especially during the first several months of PREZISTA/rtv treatment.

Evidence of new or worsening liver dysfunction (including clinically significant elevation of liver enzymes and/or symptoms such as fatigue, anorexia, nausea, jaundice, dark urine, liver tenderness, hepatomegaly) in patients on PREZISTA/rtv should prompt consideration of interruption or discontinuation of treatment.

Renal impairment

Since the renal clearance of darunavir is limited, a decrease in total body clearance is not expected in patients with renal impairment. As darunavir and ritonavir are highly bound to plasma proteins, it is unlikely that they will be significantly removed by haemodialysis or peritoneal dialysis (see DOSAGE AND DIRECTIONS FOR USE and Pharmacokinetic

properties).

Haemophilia patients

There have been reports of increased bleeding, including spontaneous skin haematomas and haemarthrosis in patients with haemophilia type A and B treated with PIs. In some patients, additional factor VIII was given. In more than half of the reported cases, treatment with PIs was continued or reintroduced if treatment had been discontinued. A causal relationship has been suggested, although the mechanism of action has not been elucidated. Haemophilia patients should therefore be made aware of the possibility of increased bleeding.

Fat redistribution and metabolic disorders

Combination antiretroviral therapy has been associated with redistribution of body fat (lipodystrophy) in HIV-infected patients. The long-term consequences of these events are currently unknown. Knowledge of the mechanism is incomplete. A connection between visceral lipomatosis and PIs and lipoatrophy and NRTIs has been hypothesised. A higher risk of lipodystrophy has been associated with individual factors such as older age, and with medicine-related factors such as longer duration of antiretroviral treatment and associated metabolic disturbances. Clinical examination should include evaluation for physical signs of fat redistribution. Consideration should be given to measurement of fasting serum lipids and blood glucose. Lipid disorders should be managed as clinically appropriate (see SIDE EFFECTS).

Immune reactivation syndrome

In HIV-infected patients with severe immune deficiency at the time of introduction of combination antiretroviral therapy (CART), an inflammatory reaction to asymptomatic or residual opportunistic pathogens may arise and cause serious clinical conditions, or

aggravation of symptoms. Typically, such reactions have been observed within the first weeks or months of initiation of CART. Relevant examples are cytomegalovirus retinitis, generalised and/or focal mycobacterial infections, and *Pneumocystis Jiroveci* pneumonia. Any inflammatory symptoms should be evaluated and treatment instituted when necessary.

Resistance/Cross-resistance

Because the potential for HIV cross-resistance among protease inhibitors has not been fully explored in PREZISTA/rtv-treated patients, it is unknown what effect therapy with PREZISTA will have on the activity of subsequently administered protease inhibitors.

Effects on ability to drive and use machines

No trials have been performed on the effect of PREZISTA in combination with ritonavir on the ability to drive or use machines. However, dizziness has been reported in some patients during treatment with regimens containing PREZISTA/rtv and should be borne in mind when considering a patient's ability to drive or operate machinery.

INTERACTIONS

Darunavir and ritonavir are both inhibitors of the CYP3A isoform. Co-administration of PREZISTA and ritonavir and medicinal products primarily metabolised by CYP3A may result in increased plasma concentrations of such medicinal products, which could increase or prolong their therapeutic effect and adverse events.

PREZISTA/rtv should not be co-administered with medicinal products that are highly dependent on CYP3A for clearance and for which increased plasma concentrations are associated with serious and/or life-threatening events (narrow therapeutic index). These medicinal products include alfuzosin, sildenafil (when used for treatment of pulmonary arterial hypertension), midazolam, triazolam, pimozide and the ergot alkaloids (e.g.,

ergotamine, dihydroergotamine, ergonovine and methylergonovine) (see CONTRAINDICATIONS).

Rifampicin is a potent inducer of CYP450 metabolism. PREZISTA/rtv should not be used in combination with rifampicin, as co-administration may cause significant decreases in darunavir plasma concentrations. This may result in loss of therapeutic effect of PREZISTA (see CONTRAINDICATIONS and WARNINGS AND SPECIAL PRECAUTIONS).

PREZISTA/rtv should not be used concomitantly with products containing St. John's Wort (*Hypericum perforatum)* because co-administration may cause significant decreases in darunavir plasma concentrations. This may result in loss of therapeutic effect of PREZISTA (see CONTRAINDICATIONS and WARNINGS AND SPECIAL PRECAUTIONS).

Antiretroviral medicinal products

Nucleoside/nucleotide reverse transcriptase inhibitors (N(t)RTIs)

Didanosine

PREZISTA/rtv (600/100 mg twice daily) did not significantly affect didanosine exposure. The combination of PREZISTA co-administered with low dose ritonavir and didanosine can be used without dose adjustments. As it is recommended that didanosine be administered on an empty stomach, didanosine should be administered 1 hour before or 2 hours after PREZISTA/rtv (which are administered with food).

Tenofovir

The results of an interaction trial with tenofovir (tenofovir disoproxil fumarate 300 mg once daily) demonstrated that the systemic exposure of tenofovir was increased by 22 % when co-administered with PREZISTA/rtv (300/100 mg twice daily). This finding is not considered to be clinically relevant. Tenofovir did not have a significant influence on darunavir exposure.

No dose adjustments of PREZISTA, ritonavir, or tenofovir disoproxil fumarate are required when these medicines are co-administered.

Other NRTIs

Based on the different elimination pathways of the other NRTIs (zidovudine, zalcitabine, emtricitabine, stavudine, lamivudine and abacavir) that are primarily renally excreted, no interactions are expected for these medicinal compounds and PREZISTA/rtv.

Non-nucleoside reverse transcriptase inhibitors (NNRTIs)

Etravirine

In an interaction trial between PREZISTA/rtv (600/100 mg twice daily) and etravirine, there was a 37 % decrease in etravirine exposure in the presence of PREZISTA/rtv and no relevant change in exposure to darunavir. Therefore, PREZISTA/rtv can be co-administered with etravirine 200 mg twice daily without dose adjustments.

Efavirenz

An interaction trial between PREZISTA/rtv (300/100 mg twice daily) and efavirenz (600 mg once daily) has been performed. In the presence of efavirenz, a decrease of 13 % for darunavir exposure and a decrease of darunavir C_{min} by 31 % were observed. Exposure to efavirenz was increased by 21 % when administered in combination with PREZISTA/rtv. The combination of PREZISTA/rtv and efavirenz should be used with caution.

Nevirapine

The results of an interaction trial with PREZISTA/rtv (400/100 mg twice daily) and nevirapine (200 mg twice daily) demonstrated that darunavir exposure was not affected when administered concomitantly with nevirapine. Exposure to nevirapine increased by 27 % (compared to historical controls) when administered in combination with PREZISTA/rtv.

Since this difference is not considered to be clinically relevant, the combination of PREZISTA/rtv and nevirapine can be used without dose adjustments.

Rilpivirine

In an interaction trial between PREZISTA/rtv (800/100 mg daily) and rilpivirine (150 mg daily), no clinically relevant effect on darunavir exposure was observed. Exposure to rilpivirine increased by 130 % (2,3-fold) when administered in combination with PREZISTA/rtv. Since this difference is not considered to be clinically relevant, the combination of PREZISTA/rtv and rilpivirine can be used without dose adjustments.

HIV protease inhibitors (PIs)

Ritonavir

The overall pharmacokinetic enhancement effect by ritonavir was an approximate 14-fold increase in the systemic exposure of darunavir when a single dose of 600 mg PREZISTA was given orally in combination with ritonavir at 100 mg twice daily. Therefore, PREZISTA should only be used in combination with low dose ritonavir as a pharmacokinetic enhancer (see WARNINGS AND SPECIAL PRECAUTIONS and Pharmacokinetic properties).

Lopinavir/ritonavir

Results of interaction trials with PREZISTA with or without ritonavir and lopinavir/ritonavir (1 200 mg darunavir twice daily with or without 100 mg ritonavir twice daily and lopinavir/ritonavir 400/100 mg twice daily or 533/133,3 mg twice daily) demonstrated a decrease in the exposure (AUC) of darunavir by 40 %. The appropriate doses of the combination have not been established. Hence, it is not recommended to co-administer PREZISTA/rtv with lopinavir/ritonavir.

Saquinavir

In an interaction study between PREZISTA (400 mg twice daily), saquinavir (1 000 mg twice daily) and ritonavir (100 mg twice daily), darunavir exposure was decreased by 26 % in the presence of saquinavir/rtv; saquinavir exposure was not affected by the presence of PREZISTA/rtv. It is not recommended to combine saquinavir and PREZISTA, (with or without low-dose ritonavir).

Atazanavir

An interaction trial between PREZISTA/rtv (400/100 mg twice daily) and atazanavir (300 mg once daily) and ritonavir 100 mg once daily demonstrated that systemic exposure to darunavir and atazanavir was not significantly affected when co-administered. Atazanavir can be co-administered with PREZISTA/rtv.

Indinavir

In an interaction study between PREZISTA/rtv (400/100 mg twice daily) and indinavir (800 mg twice daily), darunavir exposure was increased by 24 % in the presence of indinavir/rtv; indinavir exposure was increased by 23 % in the presence of PREZISTA/rtv. The appropriate dose of indinavir in combination with PREZISTA/rtv has not been established.

Other HIV protease inhibitors

The co-administration of PREZISTA/rtv and PIs other than lopinavir/ritonavir, saquinavir, atazanavir and indinavir has not been studied. Therefore, such co administration is not recommended.

Other medicinal products

Antidysrhythmics (bepridil, systemic lidocaine, quinidine and amiodarone)

Exposure to bepridil, lidocaine, quinidine and amiodarone may be increased when co-

administered with PREZISTA/rtv. This can lead to prolongation or increase of their therapeutic effect and adverse events. Caution is warranted and therapeutic monitoring of antidysrhythmics, if available, is recommended, when co-administered with PREZISTA/rtv.

Digoxin

An interaction trial with PREZISTA/rtv (600/100 mg twice daily) and a single dose of digoxin (0,4 mg) showed an increase of digoxin AUC_{last} of 77 % (ratio of least square means (LSM) was 1,77 with a 90 % CI of 0,90 to 3,50). It is recommended that the lowest dose of digoxin should initially be prescribed, and digoxin dose should be titrated to obtain the desired clinical effect when co-administered with PREZISTA/rtv. Serum digoxin concentrations should be monitored to assist in the titration.

Anticoagulants

Warfarin concentrations may be affected (decreased) when co-administered with PREZISTA/rtv. It is recommended that the international normalised ratio (INR) be monitored when warfarin is combined with PREZISTA/rtv.

Anticonvulsants (phenobarbital, phenytoin and carbamazepine)

Phenobarbital, phenytoin and carbamazepine are inducers of CYP450 enzymes. PREZISTA/rtv should not be used in combination with these medicines, as co-administration may cause significant decreases in darunavir plasma concentrations. This may result in loss of therapeutic effect to PREZISTA (see CONTRAINDICATIONS and WARNINGS AND SPECIAL PRECAUTIONS).

Carbamazepine

An interaction trial between PREZISTA/rtv (600/100 mg b.d.) and carbamazepine (200 mg b.d.) showed that the exposure to darunavir, co-administered with ritonavir, was unaffected

by carbamazepine. Ritonavir exposure (AUC_{12h}) was decreased by 49 %. For carbamazepine, AUC_{12h} was increased by 45 %. No dose adjustment for PREZISTA/rtv is recommended (see CONTRAINDICATIONS).

Colchicine

Concomitant use of colchicine and PREZISTA/rtv may increase the exposure to colchicine. The following dose adjustments are recommended for colchicine. For the treatment of gout-flares in patients on PREZISTA/rtv, the recommended dose of colchicine is 0,6 mg (one tablet), followed by 0,3 mg (half a tablet) 1 hour later. The treatment course is to be repeated within no less than 3 days. For the prophylaxis of gout-flares in patients on PREZISTA/rtv, the recommended dose of colchicine is 0,3 mg every day or every other day. For the treatment of familial Mediterranean fever in patients on PREZISTA/rtv, the maximum dose of colchicine is 0,6 mg every day (may be given as 0,3 mg twice daily). Patients with renal or hepatic impairment should not be given colchicine with PREZISTA/rtv.

Calcium channel blockers

The exposure to calcium channel blockers (e.g. felodipine, nifedipine, nicardipine) may increase when PREZISTA/rtv is used concomitantly. Caution is warranted, and careful clinical monitoring is recommended.

Clarithromycin

An interaction trial between PREZISTA/rtv (400/100 mg twice daily) and clarithromycin (500 mg twice daily) showed an increase in exposure to clarithromycin by 57 %, while exposure to darunavir was not affected. For patients with renal impairment, a dose reduction of clarithromycin should be considered.

No dose adjustment of darunavir or clarithromycin is required for patients with normal renal

function. For patients with renal impairment, the following dose adjustments should be considered:

- For subjects with CLcr of 30 to 60 ml/min, the dose of clarithromycin should be reduced by 50 %.
- For subjects with CLcr of < 30 ml/min, the dose of clarithromycin should be reduced by 75 %.

Dexamethasone

Systemic dexamethasone induces CYP3A and thereby may decrease darunavir exposure. This may result in loss of therapeutic effect. Therefore, this combination should be used with caution.

Bosentan

Concomitant use of bosentan and PREZISTA/rtv may increase plasma concentrations of bosentan. In patients who have been receiving PREZISTA/rtv for at least 10 days, bosentan should be started at 62,5 mg every day or every other day, based upon individual tolerability. For patients on bosentan and initiating PREZISTA/rtv, the use of bosentan should be discontinued at least 36 hours prior to initiation of PREZISTA/rtv. After at least 10 days following the initiation of PREZISTA/rtv, bosentan should be resumed at 62,5 mg every day or every other day, based upon individual tolerability.

Fluticasone

Concomitant use of inhaled fluticasone and PREZISTA/rtv may increase plasma concentrations of fluticasone. Alternatives should be considered, particularly for long-term use.

Hepatitis C Virus (HCV) direct-acting antivirals

NS3-4A inhibitors

Telaprevir

In an interaction trial between PREZISTA/rtv (600/100 mg twice daily) and telaprevir (750 mg every 8 hours), darunavir exposure was reduced by 40 % and telaprevir exposure was reduced by 35 %. It is not recommended that PREZISTA/rtv be co-administered with telaprevir.

HMG-CoA reductase inhibitors

HMG-CoA reductase inhibitors, such as lovastatin and simvastatin, which are highly dependent on CYP3A metabolism, are expected to have markedly increased plasma concentrations when co-administered with PREZISTA/rtv. Increased concentrations of HMG-CoA reductase inhibitors may cause myopathy, including rhabdomyolysis. Concomitant use of PREZISTA/rtv with lovastatin and simvastatin is therefore not recommended.

The results of an interaction trial with atorvastatin show that atorvastatin (10 mg once daily) in combination with PREZISTA/rtv (300/100 mg twice daily) provides an exposure to atorvastatin that is only 15 % lower than that obtained with atorvastatin (40 mg once daily) alone. When administration of atorvastatin and PREZISTA/rtv is desired, it is recommended to start with an atorvastatin dose of 10 mg once daily. A gradual dose increase of atorvastatin may be tailored to the clinical response. PREZISTA/rtv (600/100 mg twice daily) increased exposure to a single dose of pravastatin (40 mg) by approximately 80 %, but only in a subset of subjects. It is not recommended to co-administer pravastatin with PREZISTA/rtv. If treatment with an HMG-CoA reductase inhibitor is indicated, reduced starting doses of atorvastatin are recommended. When administration of pravastatin and PREZISTA/rtv is required, it is recommended to start with the lowest possible dose of pravastatin and titrate up to the desired clinical effects while monitoring safety. An

interaction study evaluating PREZISTA/rtv (600/100 mg twice daily) in combination with rosuvastatin (10 mg once daily) resulted in an increase in rosuvastatin exposure. It is recommended to start with the lowest possible dose of rosuvastatin and titrate up to the desired clinical effect while monitoring for safety.

H_2-Receptor antagonists and proton pump inhibitors

Co-administration of omeprazole (20 mg once daily) or ranitidine (150 mg twice daily) and PREZISTA/rtv (400/100 mg twice daily) did not affect the exposure to darunavir. Based on these results, PREZISTA/rtv can be co-administered with H_2-receptor antagonists and proton pump inhibitors without dose adjustments.

Inhaled beta agonist (salmeterol)

Concomitant use of salmeterol and PREZISTA/rtv is not recommended. The combination may result in increased risk of cardiovascular adverse events with salmeterol, including QT prolongation, palpitations and sinus tachycardia.

Immunosuppressants (ciclosporin, tacrolimus, sirolimus)

Exposure to ciclosporin, tacrolimus, or sirolimus may be increased when co-administered with PREZISTA/rtv. Therapeutic drug monitoring of the immunosuppressive agent is recommended when co-administered with PREZISTA/rtv.

Ketoconazole, itraconazole and voriconazole

Ketoconazole, itraconazole and voriconazole are potent inhibitors as well as substrates of CYP3A. Concomitant systemic use of ketoconazole, itraconazole or voriconazole and PREZISTA/rtv may increase plasma concentrations of darunavir. Simultaneously, plasma concentrations of ketoconazole or itraconazole may be increased by PREZISTA/rtv. The concomitant administration of ketoconazole (200 mg twice daily) with PREZISTA/rtv

(400/100 mg twice daily) increased exposure of ketoconazole and darunavir by 212 % and 42 %, respectively. Concomitant use of ketoconazole, itraconazole and voriconazole with PREZISTA is contraindicated (see CONTRAINDICATIONS).

Plasma concentrations of voriconazole may be decreased in the presence of darunavir/ritonavir. Voriconazole should not be administered to patients receiving PREZISTA/rtv (see CONTRAINDICATIONS).

Methadone

An interaction trial investigating the effect of PREZISTA/rtv (600/100 mg twice daily) on stable methadone maintenance therapy showed an AUC decrease of 16 % for R-methadone. Based on pharmacokinetic and clinical findings, no adjustment of methadone dosage is required when initiating co-administration of PREZISTA/rtv. However, clinical monitoring is recommended as maintenance therapy may need to be adjusted in some patients (see WARNINGS AND SPECIAL PRECAUTIONS).

Buprenorphine/naloxone

The results of an interaction trial with PREZISTA/rtv and buprenorphine/naloxone demonstrated that buprenorphine exposure was not affected when administered with PREZISTA/rtv. Exposure of the active metabolite, norbuprenorphine, increased by 46 %. No dose adjustment for buprenorphine was required. Careful clinical monitoring is recommended if PREZISTA/rtv and buprenorphine are co-administered (see CONTRAINDICATIONS).

Oestrogen-based contraceptives

The results of an interaction trial between PREZISTA/rtv (600/100 mg twice daily) and ethinylestradiol 35 mcg and norethindrone 1 mg demonstrated that at steady-state systemic

exposures to ethinylestradiol and norethindrone are decreased by 44 % and 14 %, respectively. Therefore, alternative methods of non-hormonal contraception **should be used** (see WARNINGS AND SPECIAL PRECAUTIONS).

PDE-5 inhibitors

Treatment of erectile dysfunction

In an interaction trial a comparable systemic exposure to sildenafil was observed for a single intake of 100 mg sildenafil alone and a single intake of 25 mg sildenafil co-administered with PREZISTA/rtv (400/100 mg twice daily). Concomitant use of PDE-5 inhibitors for the treatment of erectile dysfunction with PREZISTA/rtv should be with caution. If concomitant use of PREZISTA/rtv with sildenafil, vardenafil, or tadalafil is indicated, sildenafil at a single dose not exceeding 25 mg in 48 hours, vardenafil at a single dose not exceeding 2,5 mg in 72 hours or tadalafil at a single dose not exceeding 10 mg in 72 hours is recommended (see WARNINGS AND SPECIAL PRECAUTIONS).

Treatment of pulmonary arterial hypertension

A safe and effective dose of sildenafil for the treatment of pulmonary arterial hypertension has not been established. There is an increased potential for sildenafil-associated adverse events (including visual disturbances, hypotension, prolonged erection and syncope). Therefore, co-administration of PREZISTA/rtv with sildenafil when used for pulmonary arterial hypertension is contraindicated (see CONTRAINDICATIONS).

The phosphodiesterase type 5 (PDE5) inhibitors sildenafil, vardenafil and tadalafil are highly dependent on CYP3A for their metabolism. If concomitant use of PREZISTA/rtv with sildenafil, vardenafil or tadalafil is indicated, reduced doses of the PDE5 inhibitors are recommended (see INTERACTIONS).

For the treatment of pulmonary arterial hypertension with tadalafil co-administered with PREZISTA/rtv, a dose adjustment for tadalafil is warranted. In patients who have been receiving PREZISTA/rtv for at least 1 week, tadalafil should be started at 20 mg every day, and increased to 40 mg every day, based upon individual tolerability. For patients on tadalafil and initiating PREZISTA/rtv, the use of tadalafil should be discontinued at least 24 hours prior to initiating PREZISTA/rtv and the use of tadalafil during the initiation of PREZISTA/rtv should be avoided. After at least 1 week following the initiation of PREZISTA/rtv, tadalafil at 20 mg every day should be resumed, and increased to 40 mg every day, based upon individual tolerability.

Rifabutin

Rifabutin is a substrate of CYP450 enzymes. In an interaction trial, an increase of systemic exposure to darunavir by 57 % was observed, when PREZISTA/rtv (600/100 mg twice daily) was administered with rifabutin (150 mg once every other day). Based on the safety profile of PREZISTA/rtv, the increase in darunavir exposure in the presence of rifabutin does not warrant a dose adjustment for PREZISTA/rtv. The interaction trial showed a comparable systemic exposure for rifabutin between treatment at 300 mg once daily alone and at 150 mg once every other day in combination with PREZISTA/rtv (600/100 mg twice daily) with an increase in exposure to the active metabolite 25-*O*-desacetylrifabutin. A dosage reduction of rifabutin by 75 % of the usual dose of 300 mg/day (i.e. rifabutin 150 mg once every other day) and increased monitoring for rifabutin-related adverse events are warranted in patients receiving the combination.

Selective Serotonin Reuptake Inhibitors (SSRIs)

In an interaction trial between paroxetine (20 mg once daily) or sertraline (50 mg once daily) and PREZISTA/rtv (400/100 mg twice daily), the exposure to darunavir was not affected by the presence of sertraline or paroxetine. Exposure to sertraline and paroxetine was

decreased by 49 % and 39 % respectively in the presence of PREZISTA/rtv. If SSRIs are co-administered with PREZISTA/rtv, the recommended approach is a careful dose titration of the SSRI based on a clinical assessment of antidepressant response. In addition, patients on a stable dose of sertraline or paroxetine who start treatment with PREZISTA/rtv should be monitored for antidepressant response.

Antidepressants (Trazodone)

Concomitant use of trazodone and PREZISTA/rtv may increase plasma concentrations of trazodone. Adverse events of nausea, dizziness, hypotension and syncope have been observed following co-administration of trazodone and ritonavir. If trazodone is used with a CYP3A inhibitor such as PREZISTA/rtv, the combination should be used with caution and a lower dose of trazodone should be considered.

HUMAN REPRODUCTION

Pregnancy

Safety and efficacy have not been demonstrated. In animal studies the exposure was lower than in human exposure, and no conclusions were possible.

Lactation

It is not known whether darunavir is excreted in human milk. Studies in rats have demonstrated that darunavir is excreted in milk. Because of the potential for serious adverse events in nursing infants, mothers should be instructed not to breastfeed if they are receiving PREZISTA.

Fertility

There was no effect on mating or fertility with PREZISTA treatment in rats.

DOSAGE AND DIRECTIONS FOR USE

PREZISTA must always be given with low-dose ritonavir as a pharmacokinetic enhancer and in combination with other antiretroviral medicinal products. The prescribing information of ritonavir, including the contraindications and warnings, must therefore be consulted prior to initiation of therapy with PREZISTA/rtv.

After therapy with PREZISTA has been initiated, patients should be advised not to alter the dosage or discontinue therapy without instruction of their medical practitioner.

Paediatric patients

Antiretroviral treatment-experienced paediatric patients (6 to < 18 years of age)

The recommended dose of PREZISTA/rtv for paediatric patients (6 to < 18 years of age and weighing at least 20 kg) is based on body weight (see table below) and should not exceed the recommended adult dose (600/100 mg twice daily). PREZISTA tablets should be taken with ritonavir twice daily and with food. The type of food does not affect exposure to darunavir.

Recommended dose for treatment-experienced paediatric patients (6 to < 18 years of age) for PREZISTA tablets and ritonavir	
Body weight (kg)	**Dose**
≥ 20 kg to < 30 kg	375 mg PREZISTA/50 mg ritonavir twice daily
≥ 30 kg to < 40 kg	450 mg PREZISTA/60 mg ritonavir twice daily
≥ 40 kg	600 mg PREZISTA/100 mg ritonavir twice daily

Antiretroviral treatment-experienced children < 6 years of age and antiretroviral treatment-naïve paediatric patients

The safety and efficacy of PREZISTA/rtv in antiretroviral treatment-experienced children

aged 3 to < 6 years and in antiretroviral treatment-naïve paediatric patients have not been established.

PREZISTA/rtv should not be used in children below 3 years of age.

Hepatic impairment:

No dose adjustment is required in patients with mild or moderate hepatic impairment. There are no data regarding the use of PREZISTA/rtv when co-administered to patients with severe hepatic impairment; therefore, specific dosage recommendations cannot be made. PREZISTA/rtv should not be used in patients with severe hepatic impairment, as safety and efficacy have not been demonstrated (see WARNINGS AND SPECIAL PRECAUTIONS).

Renal impairment:

No dose adjustment is required in patients with renal impairment (see WARNINGS AND SPECIAL PRECAUTIONS and Pharmacokinetic properties).

SIDE EFFECTS

Adverse drug reactions (ADRs) identified in the safety assessment in adults

The safety assessment is based on all safety data from the Phase IIb clinical trials reported with the recommended dose of PREZISTA/rtv 600/100 mg twice daily in patients who immediately started treatment with the recommended dose (*de novo* patients).

In clinical trials, the most frequent (≥ 10 %) ADRs were diarrhoea, headache, abdominal pain, nausea and fatigue.

The most frequent grade 3 or 4 ADRs were increased hepatic and pancreatic enzymes, hypertriglyceridaemia, diarrhoea, hypercholesterolaemia, headache, abdominal pain and

vomiting. All other grade 3 or 4 ADRs were reported in less than 1 % of the patients. 2,1 % of the patients discontinued treatment due to ADRs.

Adverse reactions to PREZISTA/rtv 600/100 mg twice daily all grades in antiretroviral treatment-experienced HIV-1-infected adult patients in the pooled Phase IIb Clinical trials are mentioned in the table below*:

* excluding laboratory abnormalities reported as ADRs

Within each System Organ Class, the ADRs are ranked under CIOMS headings of frequency, using the following convention: Very common (≥ 1/10); common (≥ 1/100, < 1/10); uncommon (≥ 1/1 000, < 1/100); rare (≥ 1/10 000, < 1/1 000); very rare (≤ 1/10 000), including isolated reports

Pooled analysis Phase II b Clinical trials (PREZISTA/rtv 600/100 mg twice daily + OBR#, n=467)	
System Organ Class & Frequency category	**Adverse Drug Reaction**
Immune system disorder	
uncommon:	Immune reconstitution syndrome
Metabolism and nutrition disorders	
common:	Diabetes mellitus, anorexia
Psychiatric disorders	
uncommon:	Abnormal dreams
Nervous system disorders	
very common:	Headache
Gastrointestinal disorders	
very common:	Diarrhoea, nausea, abdominal pain
common:	Vomiting, dyspepsia, abdominal distension, flatulence
uncommon:	Acute pancreatitis

Hepatobiliary disorder	
uncommon:	Acute hepatitis
Skin and subcutaneous tissue disorders	
common:	Lipodystrophy (lipohypertrophy, lipodystrophy, and lipoatrophy), rash, pruritus
Musculoskeletal and connective tissue disorders	
common:	Myalgia
Reproductive system and breast disorders	
common:	Gynaecomastia
General disorders and administration site conditions	
very common:	Fatigue
common:	Asthenia

[#] Optimised background regimen

Laboratory abnormalities, considered ADRs, in antiretroviral treatment-experienced HIV-1-infected adult patients in the pooled Phase IIb clinical trials are shown in the table below:

Pooled analysis Phase IIb clinical trials		
Laboratory parameter Preferred Term	**Limit**	**PREZISTA/rtv 600/100 mg twice daily + OBR[#]** N=467
ALT		
Grade 2	> 2,5 to ≤ 5,0 x ULN	6,1 %
Grade 3	> 5,0 to ≤ 10,0 x ULN	2,4 %
Grade 4	> 10,0 x ULN	0,9 %
AST		
Grade 2	> 2,5 to ≤ 5,0 x ULN	6,9 %
Grade 3	> 5,0 to ≤ 10,0 x ULN	3,0 %

Grade 4	> 10,0 x ULN	0,6 %
ALP		
Grade 2	> 2,5 to ≤ 5,0 x ULN	3,9 %
Grade 3	> 5,0 to ≤ 10,0 x ULN	0,9 %
Grade 4	> 10,0 x ULN	0 %
Triglycerides		
Grade 2	5,65 to 8,47 mmol/l	9,3 %
Grade 3	8,48 to 13,56 mmol/l	8,2 %
Grade 4	> 13,56 mmol/l	3,9 %
Total cholesterol*		
Grade 2	6,22 to 7,77 mmol/l	17,7 %
Grade 3	> 7,77 mmol/l	7,1 %
LDL cholesterol*		
Grade 2	4,14 to 4,92 mmol/l	13,2 %
Grade 3	≥ 4,92 mmol/l	9,1 %
Elevated glucose levels		
Grade 2	6,99 to 13,87 mmol/l	15,4 %
Grade 3	13,93 to 27,75 mmol/l	1,7 %
Grade 4	> 27,75 mmol/l	0,2 %
Pancreatic lipase		
Grade 2	> 1,5 to ≤ 3,0 x ULN	5,2 %
Grade 3	> 3,0 to ≤ 5,0 x ULN	2,6 %
Grade 4	> 5,0 x ULN	0,9 %
Pancreatic amylase		
Grade 2	> 1,5 to ≤ 2,0 x ULN	7,4 %
Grade 3	> 2,0 to ≤ 5,0 x ULN	7,8 %
Grade 4	> 5,0 x ULN	1,1 %

Optimised background regimen

* Grade 4 data not applicable in division of AIDS grading scale

Additional adverse reactions in other clinical trials in adult subjects

System Organ Class & Frequency category	**Adverse Drug Reaction**
Skin and subcutaneous tissue disorders	
uncommon:	Angioedema[+], Stevens-Johnson Syndrome

[+] Adverse drug reactions identified from post-marketing experience

Adverse drug reactions to PREZISTA/rtv identified in paediatric patients

The safety assessment in children and adolescents is based on the safety data from the Phase II trial DELPHI in which 80 antiretroviral treatment experienced HIV-1-infected paediatric patients aged from 6 to < 18 years and weighing at least 20 kg received PREZISTA/rtv in combination with other antiretroviral agents.

Frequency, type and severity of adverse drug reactions in children and adolescents were comparable to those observed in adults.

POST-MARKETING EXPERIENCE

Adverse drug reactions identified during post-marketing experience.

System Organ Class & Frequency category	**Adverse Drug Reaction**
Immune system disorder	
Uncommon	Hypersensitivity
Skin and subcutaneous tissue disorders	
Very rare	Toxic epidermal necrolysis

Uncommon	Urticaria
Musculoskeletal and connective tissue disorders	
Uncommon*	Osteonecrosis

* Incidence of at least grade 2 ADRs, calculated on pooled data of phase IIb and III trials (N=3 063)

Combination antiretroviral therapy has been associated with redistribution of body fat (lipodystrophy) in HIV patients, including loss of peripheral and facial subcutaneous fat, increased intra-abdominal and visceral fat, breast hypertrophy and dorsocervical fat accumulation (buffalo hump).

Combination antiretroviral therapy has also been associated with metabolic abnormalities such as hypertriglyceridaemia, hypercholesterolaemia, insulin resistance, hyperglycaemia and hyperlactataemia.

Increased CPK, myalgia, myositis and, rarely, rhabdomyolysis have been reported with the use of HIV protease inhibitors, particularly in combination with NRTIs.

In HIV-infected patients with severe immune deficiency at the time of initiation of combination antiretroviral therapy, an inflammatory reaction to asymptomatic or residual opportunistic infections may arise.

Patients co-infected with hepatitis B and/or hepatitis C virus

In patients co-infected with hepatitis B or C virus receiving PREZISTA/rtv, the incidence of adverse events and clinical chemistry abnormalities were not higher than in patients receiving PREZISTA/rtv who were not co-infected, except for increased hepatic enzymes (see WARNINGS AND SPECIAL PRECAUTIONS). The pharmacokinetic exposure in co-

infected patients was comparable to that in patients without co-infection.

KNOWN SYMPTOMS OF OVERDOSAGE AND PARTICULARS OF ITS TREATMENTS

Symptoms

Human experience of acute overdose with PREZISTA/rtv is limited.

Treatment

There is no specific antidote for overdose with PREZISTA. Treatment of overdose with PREZISTA consists of general supportive measures including monitoring of vital signs and observation of the clinical status of the patient. If indicated, elimination of unabsorbed active substance is to be achieved by emesis or gastric lavage. Administration of activated charcoal may also be used to aid in removal of unabsorbed active substance. Since darunavir is highly protein bound, dialysis is unlikely to be beneficial in significant removal of the active substance.

IDENTIFICATION

PREZISTA 75 mg: White, caplet-shaped, film-coated tablet debossed with “75” and “TMC” on opposite sides.

PREZISTA150 mg: White, oval-shaped, film-coated tablet debossed with “150” and “TMC” on opposite sides.

PRESENTATION

PREZISTA 75 mg

480 film-coated tablets are packed in a white high density polyethylene bottle, with a white polypropylene child resistant cap, lined with a silver aluminium induction sealer. The bottles are packed in an outer carton.

PREZISTA 150 mg

240 film-coated tablets are packed in a white high density polyethylene bottle, with white polypropylene child resistant caps, lined with a silver aluminium induction sealer. The bottles are packed in an outer carton.

Not all packs and pack sizes are necessarily marketed.

STORAGE INSTRUCTIONS

Store at or below 30 °C.

Keep the bottle tightly closed.

Keep in original packaging until required for use.

KEEP OUT OF REACH OF CHILDREN.

REGISTRATION NUMBER

PREZISTA 75 mg: 46/20.2.8/0850

PREZISTA 150 mg: 46/20.2.8/0851

NAME AND BUSINESS ADDRESS OF THE HOLDER OF THE CERTIFICATE OF REGISTRATION

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DATE OF PUBLICATION OF THE PROFESSIONAL INFORMATION FOR MEDICINES

FOR HUMAN USE

Date of registration: 20 June 2013

Date of the most recent amendment to the professional information as approved by the Authority: 20 June 2013

ZA_PREZTAB_1306_01