

HIGHLIGHTS OF PRESCRIBING INFORMATION

These highlights do not include all the information needed to use PREZCOBIX safely and effectively. See full prescribing information for PREZCOBIX.

PREZCOBIX (darunavir and cobicistat) tablets, for oral use.
Initial U.S. Approval: 2015

INDICATIONS AND USAGE

PREZCOBIX is a two drug combination of darunavir, a human immunodeficiency virus (HIV-1) protease inhibitor and cobicistat, a CYP3A inhibitor and is indicated for the treatment of HIV-1 infection in adult patients. (1)

DOSAGE AND ADMINISTRATION

Recommended dosage: One tablet taken once daily with food. (2)

DOSAGE FORMS AND STRENGTHS

Tablets: 800 mg of darunavir and 150 mg of cobicistat. (3)

CONTRAINDICATIONS

Coadministration with certain drugs for which altered plasma concentrations are associated with serious and/or life-threatening events or loss of therapeutic effect. (4)

WARNINGS AND PRECAUTIONS

- Drug-induced hepatitis (e.g., acute hepatitis, cytolytic hepatitis), liver injury, including some fatalities can occur with PREZCOBIX. Monitor liver function before and during therapy, especially in patients with underlying chronic hepatitis, cirrhosis, or in patients who have pre-treatment elevations of transaminases. (5.1, 6)
- Skin reactions ranging from mild to severe, including Stevens-Johnson Syndrome, toxic epidermal necrolysis, drug rash with eosinophilia and systemic symptoms and acute generalized exanthematous pustulosis, can occur with PREZCOBIX. Discontinue treatment if severe reaction develops. (5.2, 6)
- Assess creatinine clearance (CL_{cr}) before initiating treatment. (5.3)
- When PREZCOBIX is used in combination with a tenofovir disoproxil fumarate (tenofovir DF) containing regimen, cases of acute renal failure and Fanconi syndrome have been reported. (5.4)

- When used with tenofovir DF: Assess urine glucose and urine protein at baseline and monitor CL_{cr}, urine glucose, and urine protein. Monitor serum phosphorus in patients with or at risk for renal impairment. (5.4)
- PREZCOBIX is not recommended in combination with other antiretroviral drugs that require pharmacokinetic boosting. (5.6)
- Monitor in patients with a known sulfonamide allergy. (5.7)
- Patients receiving PREZCOBIX may develop new onset or exacerbations of diabetes mellitus/hyperglycemia (5.8), redistribution/accumulation of body fat (5.7), and immune reconstitution syndrome(5.9).
- Patients with hemophilia may develop increased bleeding events. (5.11)

ADVERSE REACTIONS

- The most common adverse reactions to darunavir, a component of PREZCOBIX (incidence greater than or equal to 5%) of at least moderate severity (greater than or equal to Grade 2) were diarrhea, nausea, rash, headache, abdominal pain, and vomiting. (6)

To report SUSPECTED ADVERSE REACTIONS, contact Janssen Products, LP at 1-800-JANSSEN (1-800-526-7736) or FDA at 1 800 FDA 1088 or www.fda.gov/medwatch.

DRUG INTERACTIONS

- Coadministration of PREZCOBIX with other drugs can alter the concentration of other drugs and other drugs may alter the concentrations of darunavir or cobicistat. Consult the full prescribing information prior to and during treatment for potential drug interactions. (4, 5.6, 7, 12.3).

USE IN SPECIFIC POPULATIONS

- Pregnancy: Use during pregnancy only if the potential benefit justifies the potential risk. (8.1)
- Nursing Mothers: Women infected with HIV-1 should be instructed not to breastfeed due to the potential for HIV transmission and the potential for serious adverse reactions in nursing infants. (8.3)

See 17 for PATIENT COUNSELING INFORMATION and FDA approved patient labeling.

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FULL PRESCRIBING INFORMATION

1 INDICATIONS AND USAGE

PREZCOBIX is indicated in combination with other antiretroviral agents for the treatment of human immunodeficiency virus (HIV-1) infection in treatment-naïve and treatment-experienced adults with no darunavir resistance-associated substitutions (V11I, V32I, L33F, I47V, I50V, I54L, I54M, T74P, L76V, I84V, L89V).

2 DOSAGE AND ADMINISTRATION

2.1 Recommended Dosage

PREZCOBIX is a fixed-dose combination product containing 800 mg of darunavir and 150 mg of cobicistat. In treatment-naïve and treatment-experienced adults with no darunavir resistance-associated substitutions, the recommended dosage of PREZCOBIX is one tablet taken once daily orally with food. Administer PREZCOBIX in conjunction with other antiretroviral agents.

2.2 Testing Prior to Initiation of PREZCOBIX

HIV Genotypic Testing:

HIV genotypic testing is recommended for antiretroviral treatment-experienced patients. However, when HIV genotypic testing is not feasible, PREZCOBIX can be used in protease inhibitor-naïve patients, but is not recommended in protease inhibitor-experienced patients.

Creatinine Clearance:

Prior to starting PREZCOBIX, assess estimated creatinine clearance because cobicistat decreases estimated creatinine clearance due to inhibition of tubular secretion of creatinine without affecting actual renal glomerular function [*see Warnings and Precautions (5.1)*]. When coadministering PREZCOBIX with tenofovir disoproxil fumarate (tenofovir DF) assess estimated creatinine clearance, urine glucose, and urine protein at baseline [*see Warnings and Precautions (5.3)*].

2.3 Patients with Renal Impairment

PREZCOBIX coadministered with tenofovir DF is not recommended in patients who have an estimated creatinine clearance below 70 mL/min [*see Warnings and Precautions (5.3) and Adverse Reactions (6.1)*].

2.4 Patients with Hepatic Impairment

PREZCOBIX is not recommended for use in patients with severe hepatic impairment [*see Use in Specific Populations (8.6) and Clinical Pharmacology (12.3)*].

3 DOSAGE FORMS AND STRENGTHS

PREZCOBIX is supplied as pink, oval-shaped, film-coated tablets containing darunavir ethanolate equivalent to 800 mg of darunavir and 150 mg cobicistat. Each tablet is debossed with “800” on one side and “TG” on the other side.

4 CONTRAINDICATIONS

The concomitant use of PREZCOBIX and the following drugs (see Table 1) is contraindicated due to the potential for serious and/or life-threatening events or loss of therapeutic effect [*see Drug Interactions (7.3), Table 2*].

Table 1: Drugs That Are Contraindicated With PREZCOBIX

Drug Class	Drugs Within Class That Are Contraindicated With PREZCOBIX	Clinical Comment
Alpha 1-adrenoreceptor antagonist	Alfuzosin	Potential for serious and/or life-threatening reactions such as hypotension.
Antianginal	Ranolazine	Potential for serious and/or life threatening reactions.
Antiarrhythmic	Dronedarone	Potential for serious and/or life-threatening reactions such as cardiac arrhythmias.
Anti-gout	Colchicine	Contraindicated in patients with renal and/or hepatic impairment due to potential for serious and/or life-threatening reactions.
Antimycobacterial	Rifampin	Potential for reduced plasma concentrations of darunavir, which may result in loss of therapeutic effect and development of resistance.
Antipsychotic	Lurasidone Pimozide	Potential for serious and/or life-threatening reactions. Potential for serious and/or life-threatening reactions such as cardiac arrhythmias.
Ergot Derivative	Dihydroergotamine, Ergotamine, Methylergonovine	Potential for serious and/or life-threatening reactions such as acute ergot toxicity characterized by peripheral vasospasm and ischemia of the extremities and other tissues.
GI Motility Agent	Cisapride	Potential for serious and/or life-threatening reactions such as cardiac arrhythmias.
Herbal Product	St. John’s Wort (<i>Hypericum perforatum</i>)	Potential for reduced plasma concentrations of darunavir, which may result in loss of therapeutic effect and development of resistance.
HMG-CoA Reductase Inhibitor	Lovastatin, Simvastatin	Potential for serious reactions such as myopathy including rhabdomyolysis (see Table 2 for dosing recommendations for certain other HMG-CoA reductase inhibitors).
PDE-5 inhibitor	Sildenafil for treatment of pulmonary arterial hypertension	Potential for sildenafil-associated adverse reactions (which include visual disturbances, hypotension, prolonged erection, and syncope).
Sedative/Hypnotic	Orally administered Midazolam, Triazolam	Potential for serious and/or life-threatening reactions such as prolonged or increased sedation or respiratory depression. Triazolam and orally administered midazolam are extensively metabolized by CYP3A. Coadministration of triazolam or orally administered midazolam with PREZCOBIX may cause large increases in the concentrations of these benzodiazepines.

5 WARNINGS AND PRECAUTIONS

5.1 Hepatotoxicity

During the darunavir clinical development program (N=3063), where darunavir was coadministered with ritonavir 100 mg once or twice daily, drug-induced hepatitis (e.g., acute hepatitis, cytolytic hepatitis) was reported in 0.5% of subjects. 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 reactions.

Post-marketing cases of liver injury, including some fatalities, have also been reported with darunavir coadministered with ritonavir. These have generally occurred in patients with advanced HIV-1 disease taking multiple concomitant medications, having co-morbidities including hepatitis B or C co-infection, and/or developing immune reconstitution syndrome. A causal relationship with darunavir coadministered with ritonavir has not been established.

Appropriate laboratory testing should be conducted prior to initiating therapy with PREZCOBIX 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 PREZCOBIX 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 PREZCOBIX should prompt consideration of interruption or discontinuation of treatment.

5.2 Severe Skin Reactions

During the darunavir clinical development program (n=3063), where darunavir was coadministered with ritonavir 100 mg once or twice daily, severe skin reactions, accompanied by fever and/or elevations of transaminases in some cases, was reported in 0.4% of subjects. Stevens-Johnson Syndrome was rarely (less than 0.1%) reported during the clinical development program. During post-marketing experience toxic epidermal necrolysis, drug rash with eosinophilia and systemic symptoms, and acute generalized exanthematous pustulosis have been reported. Discontinue PREZCOBIX 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.

Mild-to-moderate rash was also reported and often occurred within the first four weeks of treatment and resolved with continued dosing.

5.3 Effects on Serum Creatinine

Cobicistat decreases estimated creatinine clearance due to inhibition of tubular secretion of creatinine without affecting actual renal glomerular function. This effect should be considered when interpreting changes in estimated creatinine clearance in patients initiating PREZCOBIX, particularly in patients with medical conditions or receiving drugs needing monitoring with estimated creatinine clearance.

Prior to initiating therapy with PREZCOBIX, assess estimated creatinine clearance [*see Dosage and Administration (2.4)*]. Dosage recommendations are not available for drugs that require dosage adjustments in PREZCOBIX-treated patients with renal impairment [*see Drug Interactions (7.3), Clinical Pharmacology (12.2)*]. Consider alternative medications that do not require dosage adjustments in patients with renal impairment.

Although cobicistat may cause modest increases in serum creatinine and modest declines in estimated creatinine clearance without affecting renal glomerular function, patients who experience a confirmed increase in serum creatinine of greater than 0.4 mg/dL from baseline should be closely monitored for renal safety.

5.4 New Onset or Worsening Renal Impairment When Used with Tenofovir Disoproxil Fumarate

Renal impairment, including cases of acute renal failure and Fanconi syndrome, has been reported when cobicistat, a component of PREZCOBIX, was used in an antiretroviral regimen that contained tenofovir DF. Coadministration of PREZCOBIX and tenofovir DF is not recommended in patients who have an estimated creatinine clearance below 70 mL/min [*see Dosage and Administration (2.3)*].

- Document urine glucose and urine protein at baseline [*see Dosage and Administration (2.2)*] and perform routine monitoring of estimated creatinine clearance, urine glucose, and urine protein during treatment when PREZCOBIX is used with tenofovir DF. Measure serum phosphorus in patients with or at risk for renal impairment when used with tenofovir DF.
- Coadministration of PREZCOBIX and tenofovir DF in combination with concomitant or recent use of a nephrotoxic agent is not recommended.

See cobicistat full prescribing information for additional information regarding cobicistat.

5.5 Risk of Serious Adverse Reactions or Loss of Virologic Response Due to Drug Interactions

Initiation of PREZCOBIX, which inhibits CYP3A, in patients receiving medications metabolized by CYP3A, or initiation of medications metabolized by CYP3A in patients already receiving PREZCOBIX may increase plasma concentrations of these medications, which may increase the risk of clinically significant adverse reactions (including life-threatening or fatal reactions)

associated with the concomitant medications. Coadministration of PREZCOBIX with CYP3A inducers may lead to lower exposures of darunavir and cobicistat and loss of efficacy of darunavir and possible resistance. Therefore, consider the potential for drug interactions prior to and during PREZCOBIX therapy; review concomitant medications during PREZCOBIX therapy; and monitor for the adverse reactions associated with the concomitant drugs [*see Contraindications (4), Drug Interactions (7)*].

When used with concomitant medications, PREZCOBIX may result in different drug interactions than those observed or expected with darunavir coadministered with ritonavir. Complex or unknown mechanisms of drug interactions preclude extrapolation of drug interactions with darunavir coadministered with ritonavir to certain PREZCOBIX interactions [*see Drug Interactions (7) and Clinical Pharmacology (12.3)*].

5.6 Antiretrovirals Not Recommended

PREZCOBIX is not recommended in combination with other antiretroviral drugs that require pharmacokinetic boosting (i.e., another protease inhibitor or elvitegravir) because dosing recommendations for such combinations have not been established and coadministration may result in decreased plasma concentrations of the antiretroviral agents, leading to loss of therapeutic effect and development of resistance.

PREZCOBIX is not recommended in combination with products containing the individual components of PREZCOBIX (darunavir and cobicistat) or with ritonavir. For additional recommendations on use of PREZCOBIX with other antiretroviral agents, see *Drug Interactions (7)*.

5.7 Sulfa Allergy

Darunavir contains a sulfonamide moiety. Monitor patients with a known sulfonamide allergy after initiating PREZCOBIX. In clinical studies with darunavir coadministered with ritonavir, the incidence and severity of rash were similar in subjects with or without a history of sulfonamide allergy.

5.8 Diabetes Mellitus/Hyperglycemia

New onset diabetes mellitus, exacerbation of pre-existing diabetes mellitus, and hyperglycemia have been reported during postmarketing surveillance in HIV infected patients receiving HIV protease inhibitor (PI) therapy. Some patients required either initiation or dose adjustments of insulin or oral hypoglycemic agents for treatment of these events. In some cases, diabetic ketoacidosis has occurred. In those patients who discontinued PI therapy, hyperglycemia persisted in some cases. Because these events have been reported voluntarily during clinical practice, estimates of frequency cannot be made and causal relationships between HIV PI therapy and these events have not been established.

5.9 Fat Redistribution

Redistribution/accumulation of body fat, including central obesity, dorsocervical fat enlargement (buffalo hump), peripheral wasting, facial wasting, breast enlargement, and “cushingoid appearance” have been observed in patients receiving antiretroviral therapy. The mechanism and long-term consequences of these events are currently unknown. A causal relationship has not been established.

5.10 Immune Reconstitution Syndrome

Immune reconstitution syndrome has been reported in patients treated with combination antiretroviral therapy, including PREZCOBIX. During the initial phase of combination antiretroviral treatment, patients whose immune systems respond may develop an inflammatory response to indolent or residual opportunistic infections (such as *Mycobacterium avium* infection, cytomegalovirus, *Pneumocystis jirovecii* pneumonia [PCP], or tuberculosis), which may necessitate further evaluation and treatment.

Autoimmune disorders (such as Graves’ disease, polymyositis, and Guillain-Barré syndrome) have also been reported to occur in the setting of immune reconstitution; however, the time to onset is more variable, and can occur many months after initiation of antiretroviral treatment.

5.11 Hemophilia

There have been reports of increased bleeding, including spontaneous skin hematomas and hemarthrosis in patients with hemophilia type A and B treated with HIV PIs. In some patients, additional factor VIII was given. In more than half of the reported cases, treatment with HIV PIs was continued or reintroduced if treatment had been discontinued. A causal relationship between PI therapy and these episodes has not been established.

6 ADVERSE REACTIONS

The following adverse reactions are discussed in other sections of the labeling:

- Hepatotoxicity [*see Warnings and Precautions (5.1)*]
- Severe skin reactions [*see Warnings and Precautions (5.2)*]
- Effects on serum creatinine [*see Warnings and Precautions (5.3)*]
- New onset or worsening renal impairment when used with tenofovir disoproxil fumarate [*see Warnings and Precautions (5.4)*]

6.1 Clinical Trials Experience

Because clinical trials are conducted under widely varying conditions, adverse reaction rates observed in the clinical trials of a drug cannot be directly compared to rates in the clinical trials of another drug and may not reflect the rates observed in clinical practice.

During the darunavir clinical development program, where darunavir was coadministered with ritonavir 100 mg once or twice daily, the most common clinical adverse reactions (incidence greater than or equal to 5%) of at least moderate intensity (greater than or equal to Grade 2) were

diarrhea, nausea, rash, headache, abdominal pain, and vomiting. See the darunavir full prescribing information for additional information on adverse reactions reported with darunavir coadministered with ritonavir. See cobicistat full prescribing information for clinical trial information on adverse reactions reported with cobicistat.

One single arm clinical trial was conducted with darunavir and cobicistat administered as single entities in 313 HIV-infected subjects. Adverse reactions evaluated through Week 24 did not differ substantially from those reported in clinical trials with darunavir coadministered with ritonavir.

6.2 Postmarketing Experience

See the darunavir full prescribing information for postmarketing information.

7 DRUG INTERACTIONS

No drug interaction trials have been performed with PREZCOBIX or with darunavir coadministered with cobicistat as single entities. Drug interaction trials have been conducted with darunavir coadministered with ritonavir and with cobicistat alone.

7.1 Potential for PREZCOBIX to Affect Other Drugs

When evaluated separately, darunavir and cobicistat both inhibited CYP3A and CYP2D6. Cobicistat inhibits the following transporters: p-glycoprotein (P-gp), BCRP, OATP1B1 and OATP1B3. Therefore, coadministration of PREZCOBIX with drugs that are primarily metabolized by CYP3A and/or CYP2D6 or are substrates of P-gp, BCRP, OATP1B1 or OATP1B3 may result in increased plasma concentrations of such drugs, which could increase or prolong their therapeutic effect and can be associated with adverse events (see Table 2). Based on *in vitro* data, cobicistat is not expected to induce CYP1A2 or CYP2B6 and based on *in vivo* data, cobicistat is not expected to induce MDR1 or, in general, CYP3A to a clinically significant extent. The induction effect of cobicistat on CYP2C9, CYP2C19, or UGT1A1 is unknown, but is expected to be low based on CYP3A *in vitro* induction data.

7.2 Potential for Other Drugs to Affect PREZCOBIX

Darunavir is metabolized by CYP3A. Cobicistat is metabolized by CYP3A, and to a minor extent, by CYP2D6. Drugs that induce CYP3A activity are expected to increase the clearance of darunavir and cobicistat, resulting in lowered plasma concentrations of darunavir and cobicistat which may lead to loss of therapeutic effect and development of resistance. Coadministration of PREZCOBIX and other drugs that inhibit CYP3A may result in increased plasma concentrations of darunavir and cobicistat (see Table 22).

7.3 Potentially Significant Drug Interactions

Table 22 provides dosing recommendations for expected clinically relevant interactions with PREZCOBIX. These recommendations are based on either drug interaction trials or predicted

interactions due to the expected magnitude of interaction and potential for serious adverse events or loss of efficacy.

Table 2: Potentially Significant Drug Interactions: Alterations in Dose or Regimen May Be Recommended Based on Drug Interaction Trials or Predicted Interaction		
Concomitant Drug Class: Drug Name	Effect on Concentration of Darunavir, Cobicistat, or Concomitant Drug	Clinical Comment
HIV-1 Antiviral Agents: Nucleoside Reverse Transcriptase Inhibitors (NRTIs)		
didanosine	↔ darunavir ↔ cobicistat ↔ didanosine	Didanosine should be administered one hour before or two hours after PREZCOBIX (administered with food).
HIV-1 Antiviral Agents: Non-Nucleoside Reverse Transcriptase Inhibitors (NNRTIs)		
efavirenz,	↓ cobicistat ↓ darunavir	Coadministration with efavirenz is not recommended because it may result in loss of therapeutic effect and development of resistance to darunavir.
etravirine,	↓ cobicistat darunavir: effect unknown	Coadministration with etravirine is not recommended because it may result in loss of therapeutic effect and development of resistance to darunavir.
neviraprine	↓ cobicistat darunavir: effect unknown	Coadministration with nevirapine is not recommended because it may result in loss of therapeutic effect and development of resistance to darunavir.
HIV-1 Antiviral Agents: CCR5 co-receptor antagonists		
maraviroc	↑ maraviroc	Maraviroc is a substrate of CYP3A. When coadministered with PREZCOBIX, patients should receive maraviroc 150 mg twice daily.
Other Agents		
Antiarrhythmics: e.g. amiodarone, disopyramide, flecainide, lidocaine (systemic), mexiletine, propafenone, quinidine,	↑ antiarrhythmics	Clinical monitoring is recommended upon coadministration with antiarrhythmics.
digoxin	↑ digoxin	When coadministering with digoxin, titrate the digoxin dose and monitor digoxin concentrations.
Antibacterial Agents clarithromycin, erythromycin, telithromycin	↑ darunavir ↑ cobicistat ↑ antibacterial	Consider alternative antibiotics with concomitant use of PREZCOBIX.
Anticancer Agents:	↑ anticancer agent	A decrease in the dosage or an adjustment of the dosing

dasatinib, nilotinib, vinblastine, vincristine		interval of dasatinib or nilotinib may be necessary when coadministered with PREZCOBIX. Consult the dasatinib and nilotinib prescribing information for dosing instructions. For vincristine and vinblastine, consider temporarily withholding the cobicistat-containing antiretroviral regimen in patients who develop significant hematologic or gastrointestinal side effects when PREZCOBIX is administered concurrently with vincristine or vinblastine. If the antiretroviral regimen must be withheld for a prolonged period, consider initiating a revised regimen that does not include a CYP3A or P-gp inhibitor.
Anticoagulants: apixaban, dabigatran etexilate, rivaroxaban, warfarin	↑ anticoagulant warfarin: effect unknown	Concomitant use of apixaban is not recommended. Concomitant use with dabigatran etexilate is not recommended in specific renal impairment groups (depending on the indication). Please see the dabigatran US prescribing information for specific recommendations. Coadministration with rivaroxaban is not recommended. Monitor the international normalized ratio (INR) when coadministering with warfarin.
Anticonvulsants that induce CYP3A: e.g. carbamazepine, oxcarbazepine, phenobarbital, phenytoin phenobarbital, phenytoin	↓ cobicistat darunavir effect unknown phenobarbital: effect unknown phenytoin: effect unknown	Consider alternative anticonvulsant or antiretroviral therapy to avoid potential changes in exposures. If coadministration is necessary, monitor for lack or loss of virologic response. Monitor phenobarbital or phenytoin concentrations.
Anticonvulsants that are metabolized by CYP3A: e.g. clonazepam, carbamazepine	↑ carbamazepine ↑ clonazepam	Clinical monitoring is recommended.
Antidepressants: Selective Serotonin Reuptake Inhibitors (SSRIs): e.g. paroxetine, sertraline, Tricyclic Antidepressants (TCAs): e.g. amitriptyline, desipramine, imipramine, nortriptyline	SSRIs: effects unknown ↑ TCAs	When coadministering with SSRIs, TCAs, or trazodone, careful dose titration of the antidepressant to the desired effect, including using the lowest feasible initial or maintenance dose, and monitoring for antidepressant response are recommended.

Other antidepressants: trazodone	↑ trazodone	
Antifungals: itraconazole, ketoconazole, posaconazole, voriconazole	↑ darunavir ↑ cobicistat ↑ itraconazole ↑ ketoconazole ↔ posaconazole (not studied) Voriconazole: effects unknown	Monitor for increased darunavir or cobicistat adverse reactions. Specific dosing recommendations are not available for coadministration with itraconazole or ketoconazole. Monitor for increased itraconazole or ketoconazole adverse reactions. Coadministration with voriconazole is not recommended unless benefit/risk assessment justifies the use of voriconazole.
Anti-gout: colchicine	↑ colchicine	<u>Treatment of gout flares – coadministration of colchicine:</u> - 0.6 mg (1 tablet) x 1 dose, followed by 0.3 mg (half tablet) 1 hour later. Treatment course to be repeated no earlier than 3 days. <u>Prophylaxis of gout flares – coadministration of colchicine:</u> - If the original regimen was 0.6 mg twice a day, the regimen should be adjusted to 0.3 mg once a day. If the original regimen was 0.6 mg once a day, the regimen should be adjusted to 0.3 mg once every other day. <u>Treatment of familial Mediterranean fever - coadministration of colchicine:</u> Maximum daily dose of 0.6 mg (may be given as 0.3 mg twice a day). Coadministration with colchicine is contraindicated in patients with renal or hepatic impairment [<i>see Contraindications (4)</i>].
Antimalarial: artemether/lumefantrine	artemether: effect unknown lumefantrine: effect unknown	Monitor for a potential decrease of antimalarial efficacy or potential QT prolongation.
Antimycobacterials: rifabutin rifapentine	↑ rifabutin cobcistat: effects unknown darunavir: effects unknown ↓ darunavir	When used in combination with PREZCOBIX, the recommended dose of rifabutin is 150 mg every other day. Monitor for rifabutin-associated adverse reactions including neutropenia and uveitis. Coadministration with rifapentine is not recommended.
β-Blockers: e.g. carvedilol, metoprolol, timolol	↑ beta-blockers	Clinical monitoring is recommended for coadministration with beta-blockers that are metabolized by CYP2D6.
Calcium Channel Blockers: e.g. amlodipine,	↑ calcium channel blockers	Clinical monitoring is recommended for coadministration with calcium channel blockers metabolized by CYP3A.

diltiazem, felodipine, nifedipine, verapamil		
Corticosteroids (inhaled/nasal) metabolized by CYP3A: e.g. budesonide, fluticasone	↑ corticosteroid	Coadministration with inhaled or nasal fluticasone or other corticosteroids that are metabolized by CYP3A may result in reduced serum cortisol concentrations. Alternative corticosteroids should be considered, particularly for long-term use.
Corticosteroid systemic: e.g. dexamethasone	↓ darunavir ↓ cobicistat ↑ corticosteroids	Coadministration with dexamethasone or other corticosteroids that induce CYP3A may result in loss of therapeutic effect of and development of resistance to darunavir. Consider alternative corticosteroids.
Corticosteroids (systemic) metabolized by CYP3A: e.g. budesonide, prednisolone	↑ corticosteroid	Coadministration with corticosteroids that are metabolized by CYP3A, particularly for long-term use, may increase the risk for development of systemic corticosteroid effects including Cushing's syndrome and adrenal suppression. Consider the potential benefit of treatment versus the risk of systemic corticosteroid effects.
Endothelin receptor antagonists: bosentan	↓ darunavir ↓ cobicistat ↑ bosentan	<u>Initiation of bosentan in patients taking PREZCOBIX:</u> In patients who have been receiving PREZCOBIX for at least 10 days, start bosentan at 62.5 mg once daily or every other day based upon individual tolerability. <u>Initiation of PREZCOBIX in patients on bosentan:</u> Discontinue use of bosentan at least 36 hours prior to initiation of PREZCOBIX. After at least 10 days following the initiation of PREZCOBIX, resume bosentan at 62.5 mg once daily or every other day based upon individual tolerability. <u>Switching from darunavir coadministered with ritonavir to PREZCOBIX in patients on bosentan:</u> Maintain bosentan dose.
Hepatitis C Virus (HCV) NS3-4A protease inhibitors: boceprevir, telaprevir, simeprevir	darunavir: effects unknown boceprevir: effects unknown telaprevir: effects unknown ↑ simeprevir	No drug interaction data are available. Coadministration with boceprevir, simeprevir, or telaprevir is not recommended.
HMG-CoA Reductase Inhibitors: e.g. atorvastatin, fluvastatin, pitavastatin, pravastatin, rosuvastatin	↑ atorvastatin ↑ fluvastatin ↑ pravastatin ↑ rosuvastatin pitavastatin: effect unknown	For atorvastatin, fluvastatin, pitavastatin pravastatin, and rosuvastatin, start with the lowest recommended dose and titrate while monitoring for safety [see <i>Contraindications (4)</i>].
Hormonal Contraceptives:	progestin: effects	No data are available to make recommendations on

progestin/estrogen	unknown estrogen: effects unknown	coadministration with oral or other hormonal contraceptives. Additional or alternative (non-hormonal) forms of contraception should be considered.
Immunosuppressants: cyclosporine, sirolimus, tacrolimus Immunosuppressant/neoplastic: everolimus	↑ immunosuppressants	These immunosuppressant agents are metabolized by CYP3A. Therapeutic drug monitoring is recommended with concomitant use. Coadministration of everolimus and PREZCOBIX is not recommended.
Inhaled beta agonist: salmeterol	↑ salmeterol	Coadministration with salmeterol is not recommended and may result in increased risk of cardiovascular adverse events associated with salmeterol, including QT prolongation, palpitations, and sinus tachycardia.
Narcotic Analgesics metabolized by CYP3A: e.g. fentanyl, oxycodone tramadol	↑ fentanyl ↑ oxycodone ↑ tramadol	Careful monitoring of therapeutic effects and adverse reactions associated with CYP3A-metabolized narcotic analgesics (including potentially fatal respiratory depression) is recommended with coadministration. A dose decrease may be needed for tramadol with concomitant use.
Narcotic Analgesic for Treatment of Opioid Dependence: buprenorphine, buprenorphine/naloxone, methadone	buprenorphine or buprenorphine/naloxone: effects unknown methadone: effects unknown	<u>Initiation of buprenorphine, buprenorphine/naloxone or methadone in patients taking PREZCOBIX:</u> Carefully titrate the dose of buprenorphine, buprenorphine/naloxone or methadone to the desired effect; use the lowest feasible initial or maintenance dose. <u>Initiation of PREZCOBIX in patients taking buprenorphine, buprenorphine/naloxone or methadone:</u> A dose adjustment for buprenorphine, buprenorphine/naloxone or methadone may be needed. Monitor clinical signs and symptoms.
Neuroleptics: e.g. perphenazine, risperidone, thioridazine	↑ neuroleptics	A decrease in the dose of neuroleptics that are CYP3A- or CYP2D6- metabolized may be needed when coadministered with PREZCOBIX.
Phosphodiesterase PDE-5 inhibitors: e.g. avanafil, sildenafil, tadalafil, vardenafil	↑ PDE-5 inhibitors	Coadministration with avanafil is not recommended because a safe and effective avanafil dosage regimen has not been established. Coadministration with PDE-5 inhibitors may result in an increase in PDE-5 inhibitor-associated adverse reactions including hypotension, syncope, visual disturbances and priapism. Use of PDE-5 inhibitors for pulmonary arterial hypertension (PAH): <ul style="list-style-type: none"> • Coadministration with sildenafil is contraindicated [see <i>Contraindications (4)</i>].

		<ul style="list-style-type: none"> The following dose adjustments are recommended for use of tadalafil with PREZCOBIX: <i>Initiation of tadalafil in patients taking PREZCOBIX:</i> In patients receiving PREZCOBIX for at least one week, start tadalafil at 20 mg once daily. Increase to 40 mg once daily based upon individual tolerability. <i>Initiation of PREZCOBIX in patients taking tadalafil:</i> Avoid use of tadalafil during the initiation of PREZCOBIX. Stop tadalafil at least 24 hours prior to starting PREZCOBIX. After at least one week following the initiation of PREZCOBIX, resume tadalafil at 20 mg once daily. Increase to 40 mg once daily based upon individual tolerability. Patients switching from darunavir coadministered with ritonavir to PREZCOBIX: Maintain tadalafil dose. <p><i>Use of PDE-5 inhibitors for erectile dysfunction:</i> Sildenafil at a single dose not exceeding 25 mg in 48 hours, vardenafil at a single dose not exceeding 2.5 mg dose in 72 hours, or tadalafil at a single dose not exceeding 10 mg dose in 72 hours can be used with increased monitoring for PDE-5 inhibitor-associated adverse reactions.</p>
<p>Sedatives/Hypnotics metabolized by CYP3A: e.g. buspirone, diazepam, estazolam parenterally administered midazolam, zolpidem</p>	<p>↑ sedatives/hypnotics</p>	<p>With concomitant use, titration is recommended with sedatives/hypnotics metabolized by CYP3A and a lower dose of the sedatives/hypnotics should be considered with monitoring for increased and prolonged effects or adverse reactions.</p> <p>Coadministration of parenteral midazolam should be done in a setting that ensures close clinical monitoring and appropriate medical management in case of respiratory depression and/or prolonged sedation. Dose reduction for parenteral midazolam should be considered, especially if more than a single dose of midazolam is administered.</p> <p>Coadministration with oral midazolam or triazolam is CONTRAINDICATED [see <i>Contraindications (4.0)</i>].</p>

Clinically relevant drug-drug interactions are not anticipated with concomitant use of darunavir and cobicistat with rilpivirine, dolutegravir, raltegravir, nucleoside reverse transcriptase inhibitors (NRTIs) other than didanosine, or acid modifying medications (antacids, H₂-receptor antagonists, proton pump inhibitors).

8 USE IN SPECIFIC POPULATIONS

8.1 Pregnancy

Pregnancy Category C: PREZCOBIX should be used during pregnancy only if the potential benefit justifies the potential risk.

No adequate and well-controlled studies have been conducted in pregnant women using darunavir, cobicistat, or PREZCOBIX.

Antiretroviral Pregnancy Registry: *To monitor maternal-fetal outcomes of pregnant women exposed to PREZCOBIX, an Antiretroviral Pregnancy Registry has been established. Physicians are encouraged to register patients by calling 1-800-258-4263.*

Animal Data:

Cobicistat: Studies in animals have shown no evidence of teratogenicity or an effect on reproductive function. In offspring from rat and rabbit dams treated with cobicistat during pregnancy, there were no toxicologically significant effects on developmental endpoints. The exposures at the embryo-fetal No Observed Adverse Effects Levels (NOAELs) in rats and rabbits were respectively 1.4 and 3.3 times higher than the exposure in humans at the recommended daily dose of 150 mg.

Darunavir: Reproduction studies conducted with darunavir showed no embryotoxicity or teratogenicity in mice and rats in the presence or absence of ritonavir as well as in rabbits with darunavir alone. In these studies, darunavir exposures (based on AUC) were higher in rats (3-fold), whereas in mice and rabbits, exposures were lower (less than 1-fold) compared to those obtained in humans at the recommended clinical dose of darunavir coadministered with ritonavir.

In the rat pre- and postnatal development study, a reduction in pup body weight gain was observed with darunavir alone or coadministered with ritonavir during lactation. This was due to exposure of pups to drug substances via the milk. Sexual development, fertility and mating performance of offspring were not affected by maternal treatment with darunavir alone or coadministered with ritonavir. The maximal plasma exposures achieved in rats were approximately 50% of those obtained in humans at the recommended clinical dose boosted with ritonavir.

In the juvenile toxicity study where rats were directly dosed with darunavir, deaths occurred from post-natal day 5 through 11 at plasma exposure levels ranging from 0.1 to 1.0 of the human exposure levels. In a 4 week rat toxicology study, when dosing was initiated on post-natal day 23 (the human equivalent of 2 to 3 years of age), no deaths were observed with a plasma exposure (in combination with ritonavir) of 0.1 of the human plasma exposure levels.

8.3 Nursing Mothers

The Centers for Disease Control and Prevention recommend that HIV infected mothers in the United States not breastfeed their infants to avoid risking postnatal transmission of HIV. Although it is not known whether darunavir or cobicistat are secreted in human milk, darunavir and cobicistat are secreted into the milk of lactating rats. Because of both the potential for HIV transmission and the potential for serious adverse reactions in nursing infants, **instruct mothers not to breastfeed.**

8.4 Pediatric Use

Safety, effectiveness, and pharmacokinetics of PREZCOBIX in pediatric patients less than 18 years of age have not been established. Darunavir, and thus PREZCOBIX is not recommended in pediatric patients below 3 years of age in view of toxicity and mortality observed in juvenile rats dosed with darunavir [*see Nonclinical Toxicology (13.2)*].

8.5 Geriatric Use

Clinical trials of PREZCOBIX did not include sufficient numbers of patients aged 65 and over to determine whether they respond differently from younger patients. In general, caution should be exercised in the administration and monitoring of PREZCOBIX in elderly patients, reflecting the greater frequency of decreased hepatic function, and of concomitant disease or other drug therapy [*see Clinical Pharmacology (12.3)*].

8.6 Hepatic Impairment

No clinical trials were conducted with darunavir coadministered with cobicistat in hepatically impaired subjects and the effect of hepatic impairment on darunavir exposure when coadministered with cobicistat has not been evaluated. Based on the recommendations for darunavir coadministered with ritonavir, a dose adjustment for patients with mild or moderate hepatic impairment is not necessary. No pharmacokinetic or safety data are available regarding the use of darunavir in subjects with severe hepatic impairment. Therefore, PREZCOBIX is not recommended for use in patients with severe hepatic impairment [*see Clinical Pharmacology (12.3)*].

8.7 Renal Impairment

A renal impairment trial was not conducted for darunavir coadministered with cobicistat [*see Clinical Pharmacology (12.3)*]. Cobicistat has been shown to decrease estimated creatinine clearance without affecting actual renal glomerular function. Dosing recommendations are not available for drugs that require dosage adjustment for renal impairment when used in combination with PREZCOBIX [*see Warnings and Precautions (5.3), and Clinical Pharmacology (12.2)*].

10 OVERDOSAGE

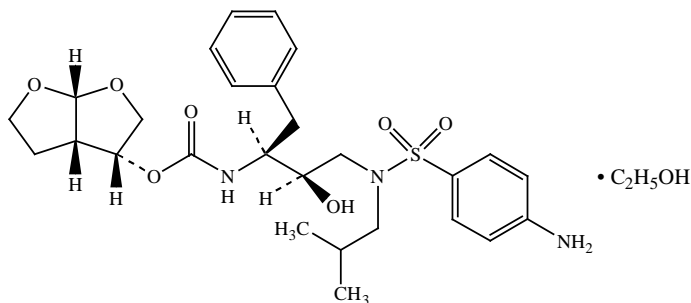
Human experience of acute overdose with PREZCOBIX is limited. No specific antidote is available for overdose with PREZCOBIX. Treatment of overdose with PREZCOBIX consists of general supportive measures including monitoring of vital signs and observation of the clinical status of the patient. Since both darunavir and cobicistat are highly protein bound, dialysis is unlikely to be beneficial in significant removal of the active substance.

11 DESCRIPTION

PREZCOBIX is a fixed-dose combination tablet containing darunavir and cobicistat. Darunavir is an inhibitor of the human immunodeficiency virus (HIV-1) protease. Cobicistat is a mechanism-based inhibitor of cytochrome P450 (CYP) enzymes of the CYP3A family.

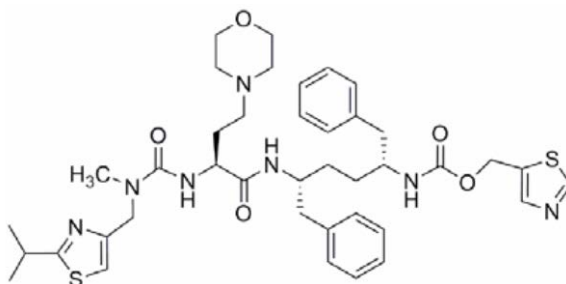
PREZCOBIX tablets are for oral administration. Each tablet contains darunavir ethanolate equivalent to 800 mg of darunavir and 150 mg of cobicistat. The tablets include the following inactive ingredients: colloidal silicon dioxide, crospovidone, hypromellose, magnesium stearate, and silicified microcrystalline cellulose. The tablets are film-coated with a coating material containing iron oxide black, iron oxide red, polyethylene glycol, polyvinyl alcohol (partially hydrolyzed), talc, and titanium dioxide.

Darunavir: Darunavir, in the form of darunavir ethanolate, has the following chemical name: [(1*S*,2*R*)-3-[[[4-aminophenyl)sulfonyl](2-methylpropyl)amino]-2-hydroxy-1-(phenylmethyl)propyl]-carbamic acid (3*R*,3*aS*,6*aR*)-hexahydrofuro[2,3-*b*]furan-3-yl ester monoethanolate. Its molecular formula is $C_{27}H_{37}N_3O_7S \cdot C_2H_5OH$ and its molecular weight is 593.73. Darunavir ethanolate has the following structural formula:



Cobicistat: Cobicistat is adsorbed onto silicon dioxide. The chemical name for cobicistat is 1,3-thiazol-5-ylmethyl[(2*R*,5*R*)-5-[[[2*S*]-2-[(methyl{2-(propan-2-yl)-1,3-thiazol-4-yl)methyl} carbamoyl)amino]-4-(morpholin-4-yl)butanoyl]amino]-1,6-diphenylhexan-2-yl]carbamate.

It has a molecular formula of $C_{40}H_{53}N_7O_5S_2$ and a molecular weight of 776.0. It has the following structural formula:



12 CLINICAL PHARMACOLOGY

12.1 Mechanism of Action

PREZCOBIX is a fixed-dose combination of an HIV-1 antiviral drug, darunavir and a CYP3A inhibitor, cobicistat [see *Microbiology (12.4)*].

12.2 Pharmacodynamics

Cardiac Electrophysiology

Separate thorough QT trials have been conducted for darunavir coadministered with ritonavir and for cobicistat. The effect of darunavir coadministered with cobicistat on the QT interval has not been evaluated.

Darunavir: In an open-label, randomized, placebo- and active-controlled, four-way crossover trial, 40 healthy subjects were administered supratherapeutic doses of darunavir 1600 mg and ritonavir 100 mg once daily and darunavir 800 mg and ritonavir 100 mg twice daily (approximately 2 times the recommended darunavir dose) for seven days. At the mean maximum darunavir concentration of 6599 ng/mL observed in this trial, the mean increase in QTcF was 2.2 ms with a 90% two-sided confidence interval (CI) of -2.0 to 6.3 ms. When evaluating the 2-sided 90% CI on the time-matched mean changes in QTcF versus placebo control, the upper bounds of both darunavir coadministered with ritonavir groups never exceeded the 10 ms boundary. In the setting of this trial, darunavir coadministered with ritonavir did not appear to prolong the QTc interval.

Cobicistat: The effect of a single dose of cobicistat 250 mg and 400 mg (approximately 1.7 and 2.7 times the recommended dose) on QTc interval was evaluated in a randomized, placebo- and active-controlled (moxifloxacin 400 mg) four-period crossover thorough QT trial in 48 healthy subjects. In this trial, no significant QTc prolongation effect of cobicistat was detected. The dose of 400 mg cobicistat is expected to provide information on a high exposure clinical scenario. Prolongation of the PR interval was noted in subjects receiving cobicistat in the same trial. The maximum mean (95% upper confidence bound) difference in PR from placebo after baseline-correction was 9.5 (12.1) msec for 250 mg and 20.2 (22.8) msec for 400 mg of cobicistat.

Effects on Serum Creatinine

Cobicistat: The effect of cobicistat on serum creatinine was investigated in a trial in subjects with normal renal function (eGFR \geq 80 mL/min, N=12) and mild-to-moderate renal impairment

(eGFR 50-79 mL/min, N=18). A statistically significant decrease in the estimated glomerular filtration rate, calculated by Cockcroft-Gault method (eGFR_{CG}) from baseline, was observed after 7 days of treatment with cobicistat 150 mg among subjects with normal renal function (-9.9 ± 13.1 mL/min) and mild-to-moderate renal impairment (-11.9 ± 7.0 mL/min). No statistically significant changes in eGFR_{CG} were observed compared to baseline for subjects with normal renal function or mild-to-moderate renal impairment 7 days after cobicistat was discontinued. The actual glomerular filtration rate, as determined by the clearance of probe drug iohexol, was not altered from baseline following treatment of cobicistat among subjects with normal renal function and mild-to-moderate renal impairment, indicating that cobicistat inhibits tubular secretion of creatinine, reflected as a reduction in eGFR_{CG}, without affecting the actual glomerular filtration rate.

12.3 Pharmacokinetics

The pharmacokinetics of darunavir coadministered with cobicistat (150 mg) have been evaluated in healthy adult subjects and in HIV-1 infected subjects.

Darunavir is primarily metabolized by CYP3A. Cobicistat inhibits CYP3A, thereby increasing the plasma concentrations of darunavir.

Under fed (535 total kcal, 171 kcal from fat, 268 kcal from carbohydrates, 96 kcal from protein) and fasted conditions in healthy subjects, the 90% confidence intervals when comparing darunavir exposure between PREZCOBIX and darunavir 800 mg coadministered with cobicistat 150 mg as single entities were within 80-125%.

Darunavir exposure when comparing darunavir coadministered with cobicistat (as single entities) to darunavir coadministered with ritonavir was evaluated in a relative bioavailability trial [*see cobicistat full prescribing information*]. Table displays the population pharmacokinetic estimates of darunavir after oral administration of darunavir 800 mg coadministered with ritonavir 100 mg once daily (based on sparse sampling in 335 subjects in Trial TMC114-C211 and 280 subjects in Trial TMC114-C229) and darunavir 800 mg coadministered with cobicistat 150 mg once daily administered as single entities (based on sparse sampling in 298 subjects in Trial GS-US-216-0130) to HIV-1 infected subjects.

Table 3: Population Pharmacokinetic Estimates of Darunavir as Darunavir 800 mg Coadministered with Ritonavir 100 mg Once Daily (Trial TMC114-C211, 48 Week Analysis and Trial TMC114-C229, 48 Week Analysis) and Darunavir 800 mg coadministered with cobicistat 150 mg Once Daily (Study GS-US-216-130, 24 Week Analysis)

Parameter	Trial TMC114-C211 (treatment-naïve) Darunavir 800 mg coadministered with ritonavir 100 mg once daily N=335	Trial TMC114-C229 (treatment-experienced) Darunavir 800 mg coadministered with ritonavir 100 mg once daily N=280	Trial GS-US-216-0130 (treatment-naïve and experienced) Darunavir 800 mg coadministered with cobicistat 150 mg once daily N=298
AUC _{24h} (ng·h/mL)			
Mean ± Standard Deviation	93026 ± 27050	93334 ± 28626	100152 ± 32042
Median (Range)	87854 (45000-219240)	87788 (45456-236920)	96900 (34500-224000)
C _{0h} (ng/mL)			
Mean ± Standard Deviation	2282 ± 1168	2160 ± 1201	2043 ± 1257
Median (Range)	2041 (368-7242)	1896 (184-7881)	1875 (70-6890)

N=number of subjects with data

Absorption and Bioavailability

In healthy subjects, under fed conditions, when single doses of the darunavir and cobicistat fixed dose combination tablet were administered, the maximum plasma concentration was achieved within approximately 4 to 4.5 hours for darunavir and approximately 4 to 5 hours for cobicistat.

Effects of Food on Oral Absorption

When compared to fasted conditions, administration of PREZCOBIX to healthy adult subjects with a high-fat meal (965 total kcal: 129 kcal from protein, 236 kcal from carbohydrates and 600 kcal from fat) resulted in a 70% increase in AUC_(0-inf) and a 127% increase in C_{max} for darunavir. Cobicistat exposures were not affected by food. PREZCOBIX should be taken with food.

Distribution

Darunavir: Darunavir is approximately 95% bound to plasma proteins. Darunavir binds primarily to plasma alpha 1-acid glycoprotein (AAG).

Cobicistat: Cobicistat is 97-98% bound to human plasma proteins and the mean blood-to-plasma ratio was approximately 0.5.

Metabolism

Darunavir: *In vitro* experiments with human liver microsomes (HLMs) indicate that darunavir primarily undergoes oxidative metabolism. Darunavir is extensively metabolized by CYP enzymes, primarily by CYP3A. A mass balance trial in healthy subjects showed that after single dose administration of 400 mg ¹⁴C-darunavir coadministered with 100 mg ritonavir, the majority of the radioactivity in the plasma was due to darunavir. At least 3 oxidative metabolites of darunavir have been identified in humans; all showed activity that was at least 90% less than the activity of darunavir against wild-type HIV-1.

Cobicistat: Cobicistat is metabolized by CYP3A and to a minor extent by CYP2D6 enzymes and does not undergo glucuronidation.

Elimination

Darunavir: A mass balance trial in healthy subjects showed that after single dose administration of 400 mg ¹⁴C-darunavir coadministered with 100 mg ritonavir, approximately 79.5% and 13.9% of the administered dose of ¹⁴C-darunavir was recovered in the feces and urine, respectively. Unchanged darunavir accounted for approximately 41.2% and 7.7% of the administered dose in feces and urine, respectively.

When single doses of the darunavir and cobicistat fixed dose combination tablet were administered, the terminal elimination half-life of darunavir was approximately 7 hours under fed conditions.

Cobicistat: When single doses of the darunavir and cobicistat fixed dose combination tablet were administered, the terminal elimination half-life of cobicistat was approximately 4 hours under fed conditions. With single dose administration of ¹⁴C-cobicistat after multiple dosing of cobicistat for six days, the mean percent of the administered dose excreted in feces and urine was 86.2% and 8.2%, respectively.

Specific Populations

Hepatic impairment

Darunavir: Darunavir is primarily metabolized by the liver. The steady-state pharmacokinetic parameters of darunavir were similar after multiple dose coadministration of darunavir 600 mg coadministered with ritonavir 100 mg twice daily to subjects with normal hepatic function (n=16), mild hepatic impairment (Child-Pugh Class A, n=8), and moderate hepatic impairment (Child-Pugh Class B, n=8). The effect of severe hepatic impairment on the pharmacokinetics of darunavir has not been evaluated [see *Use in Specific Populations (8.6)*].

Cobicistat: Cobicistat is primarily metabolized by the liver. A trial evaluating the pharmacokinetics of cobicistat was performed in non-HIV-1 infected subjects with moderate

hepatic impairment. No clinically relevant differences in cobicistat pharmacokinetics were observed between subjects with moderate hepatic impairment (Child-Pugh Class B) and healthy subjects. The effect of severe hepatic impairment on the pharmacokinetics of cobicistat has not been evaluated [see *Use in Specific Populations (8.6)*].

Hepatitis B or Hepatitis C Virus Co-infection

Darunavir: In HIV-infected subjects taking darunavir coadministered with ritonavir, the 48 week analysis of the data from clinical studies in HIV-1 infected subjects indicated that hepatitis B and/or hepatitis C virus co-infection status had no apparent effect on the exposure of darunavir.

The effect of hepatitis B and/or C virus infection on the pharmacokinetics of PREZCOBIX have not been evaluated.

Renal Impairment

Darunavir: Population pharmacokinetic analysis showed that the pharmacokinetics of darunavir were not significantly affected in HIV-1 infected subjects with moderate renal impairment taking darunavir coadministered with ritonavir (CrCL between 30-60 mL/min, n=20). There are no pharmacokinetic data available in HIV-1 infected patients with severe renal impairment or end stage renal disease taking darunavir coadministered with either ritonavir or cobicistat [see *Use in Specific Populations (8.7)*].

Cobicistat: A trial of the pharmacokinetics of cobicistat was performed in non-HIV infected subjects with severe renal impairment (estimated creatinine clearance below 30 mL/min). No clinically relevant differences in cobicistat pharmacokinetics were observed between subjects with severe renal impairment and healthy subjects [see *Use in Special Populations (8.7)*].

Gender

Darunavir: In HIV-infected subjects taking darunavir coadministered with ritonavir, population pharmacokinetic analysis showed higher mean darunavir exposure in HIV-1 infected females compared to males. This difference is not clinically relevant.

Cobicistat: No clinically relevant pharmacokinetic differences have been observed between men and women for cobicistat.

Race

Darunavir: Population pharmacokinetic analysis of darunavir in HIV-1 infected subjects taking darunavir coadministered with ritonavir indicated that race had no apparent effect on the exposure to darunavir.

Cobicistat: Population pharmacokinetic analysis of cobicistat in HIV-1 infected subjects indicated that race had no clinically relevant effect on the exposure of cobicistat.

Geriatric Patients

Darunavir: In HIV-infected subjects taking darunavir coadministered with ritonavir, population pharmacokinetic analysis showed no considerable differences in darunavir pharmacokinetics for ages 18 to 75 years compared to ages greater than or equal to 65 years (n=12) [see *Use in Specific Populations* (8.5)].

Cobicistat: Insufficient data are available to determine whether potential differences exist in the pharmacokinetics of cobicistat in geriatric (65 years of age and older) subjects compared to younger subjects.

Pediatric Patients

The pharmacokinetics of PREZCOBIX in pediatric subjects have not been established.

12.4 Microbiology

Mechanism of Action

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

Cobicistat: Cobicistat is a selective, mechanism-based inhibitor of cytochromes P450 of the CYP3A subfamily. Inhibition of CYP3A-mediated metabolism by cobicistat enhances the systemic exposure of CYP3A substrates.

Antiviral Activity

Darunavir: Darunavir exhibits 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 with median EC₅₀ values ranging from 1.2 to 8.5 nM (0.7 to 5.0 ng/mL). Darunavir demonstrates antiviral activity in cell culture against a broad panel of HIV-1 group M (A, B, C, D, E, F, G), and group O primary isolates with EC₅₀ values ranging from less than 0.1 to 4.3 nM. The EC₅₀ value of darunavir increases by a median factor of 5.4 in the presence of human serum. Darunavir did not show antagonism when studied in combination with the HIV protease inhibitors (PIs) amprenavir, atazanavir, indinavir, lopinavir, nelfinavir, ritonavir, saquinavir, or tipranavir, the N(t)RTIs abacavir, didanosine, emtricitabine, lamivudine, stavudine, tenofovir, zalcitabine, or zidovudine, the NNRTIs delavirdine, efavirenz, etravirine, rilpivirine, or nevirapine, and the fusion inhibitor enfuvirtide.

Cobicistat: Cobicistat does not inhibit recombinant HIV-1 protease in a biochemical assay and has no detectable antiviral activity in cell culture against HIV-1. The antiviral activity in cell culture of approved HIV-1 antiretroviral drugs was not antagonized by cobicistat.

Resistance

Cell Culture

Darunavir: HIV-1 isolates with a decreased susceptibility to darunavir have been selected in cell culture and obtained from subjects treated with darunavir coadministered with ritonavir. Darunavir-resistant virus derived in cell culture from wild-type HIV-1 had 21- to 88-fold decreased susceptibility to darunavir and developed 2 to 4 of the following amino acid substitutions S37D, R41E/T, K55Q, H69Q, K70E, T74S, V77I, or I85V in the protease. Selection in cell culture of darunavir resistant HIV-1 from nine HIV-1 strains harboring multiple PI resistance-associated substitutions resulted in the overall emergence of 22 mutations in the protease gene, coding for amino acid substitutions L10F, V11I, I13V, I15V, G16E, L23I, V32I, L33F, S37N, M46I, I47V, I50V, F53L, L63P, A71V, G73S, L76V, V82I, I84V, T91A/S, and Q92R, of which L10F, V32I, L33F, S37N, M46I, I47V, I50V, L63P, A71V, and I84V were the most prevalent. These darunavir-resistant viruses had at least eight protease substitutions and exhibited 50- to 641-fold decreases in darunavir susceptibility with final EC₅₀ values ranging from 125 nM to 3461 nM.

Clinical Studies

The resistance profile of PREZCOBIX is driven by darunavir. Cobicistat does not select any HIV resistance substitutions, due to its lack of antiviral activity. For the clinical resistance profile of darunavir, refer to the darunavir full prescribing information.

Cross-resistance

Cross-resistance among PIs has been observed. Darunavir has a less than 10-fold decreased susceptibility in cell culture against 90% of 3309 clinical isolates resistant to amprenavir, atazanavir, indinavir, lopinavir, nelfinavir, ritonavir, saquinavir, and/or tipranavir showing that viruses resistant to these PIs remain susceptible to darunavir. A less than 10-fold decreased susceptibility was observed for the other PIs in 26% to 96% of these PI resistant clinical isolates (nelfinavir (26%), ritonavir (34%), lopinavir (46%), indinavir (57%), atazanavir (59%), saquinavir (64%), amprenavir (70%), and tipranavir (96%).

Cross-resistance between darunavir and nucleoside/nucleotide reverse transcriptase inhibitors, non-nucleoside reverse transcriptase inhibitors, fusion inhibitors, CCR5 co-receptor antagonists, or integrase strand transfer inhibitors is unlikely because the viral targets are different.

Baseline Genotype/Phenotype and Virologic Outcome Analyses

Baseline International AIDS Society (IAS)-defined PI resistance substitutions confer reduced virologic response to darunavir. Please refer to the “Baseline Genotype/Phenotype and Virologic Outcome Analyses” section in the darunavir full prescribing information.

13 NONCLINICAL TOXICOLOGY

13.1 Carcinogenesis, Mutagenesis, Impairment of Fertility

Carcinogenesis and Mutagenesis

Darunavir: Darunavir was evaluated for carcinogenic potential by oral gavage administration to mice and rats up to 104 weeks. Daily doses of 150, 450 and 1000 mg/kg were administered to mice and doses of 50, 150 and 500 mg/kg were administered to rats. A dose-related increase in the incidence of hepatocellular adenomas and carcinomas was observed in males and females of both species and an increase in thyroid follicular cell adenomas was observed in male rats. The observed hepatocellular findings in rodents are considered to be of limited relevance to humans. Repeated administration of darunavir to rats caused hepatic microsomal enzyme induction and increased thyroid hormone elimination, which predispose rats but not humans, to thyroid neoplasms. At the highest tested doses, the systemic exposures to darunavir (based on AUC) were between 0.4- and 0.7-fold (mice) and 0.7- and 1-fold (rats), of exposures observed in humans at the recommended therapeutic doses (darunavir 600 mg coadministered with ritonavir, 100 mg twice daily or darunavir 800 mg coadministered with ritonavir 100 mg once daily).

Darunavir was not mutagenic or genotoxic in a battery of *in vitro* and *in vivo* assays including bacterial reverse mutation (Ames), chromosomal aberration in human lymphocytes, and *in vivo* micronucleus test in mice.

Cobicistat: In a long-term carcinogenicity study in mice, no drug-related increases in tumor incidence were observed at doses up to 50 and 100 mg/kg/day in males and females, respectively. Cobicistat exposures at these doses were approximately 7 (male) and 16 (females) times, respectively, the human systemic exposure at the therapeutic daily dose. In a long-term carcinogenicity study of cobicistat in rats, an increased incidence of follicular cell adenomas and/or carcinomas in the thyroid gland was observed at doses of 25 and 50 mg/kg/day in males, and at 30 mg/kg/day in females. The follicular cell findings are considered to be rat-specific, secondary to hepatic microsomal enzyme induction and thyroid hormone imbalance, and are not relevant for humans. At the highest doses tested in the rat carcinogenicity study, systemic exposures were approximately 2 times the human systemic exposure at the therapeutic daily dose.

Cobicistat was not genotoxic in the reverse mutation bacterial test (Ames test), mouse lymphoma or rat micronucleus assays.

Impairment of Fertility

Darunavir: No effects on fertility or early embryonic development were observed with darunavir in rats and darunavir has shown no teratogenic potential in mice or rats (in the presence or absence of ritonavir), or in rabbits.

Cobicistat: Cobicistat did not affect fertility in male or female rats at daily exposures (AUC) approximately 4-fold higher than human exposures at the recommended 150 mg daily dose.

Fertility was normal in the offspring of rats exposed daily from before birth (*in utero*) through sexual maturity at daily exposures (AUC) of approximately 1.2-fold higher than human exposures at the recommended 150 mg daily dose.

13.2 Animal Toxicology and/or Pharmacology

Darunavir: In juvenile rats, single doses of darunavir (20 mg/kg to 160 mg/kg at ages 5-11 days) or multiple doses of darunavir (40 mg/kg to 1000 mg/kg at age 12 days) caused mortality. The mortalities were associated with convulsions in some of the animals. Within this age range exposures in plasma, liver, and brain were dose and age dependent and were considerably greater than those observed in adult rats. These findings were attributed to the ontogeny of the CYP450 liver enzymes involved in the metabolism of darunavir and the immaturity of the blood-brain barrier. No treatment-related mortalities were noted in juvenile rats after a single dose of darunavir at 1000 mg/kg on day 26 of age or after repeat dosing at 500 mg/kg from day 23 to 50 of age. The exposures and toxicity profile in the older animals (day 23 or day 26) were comparable to those observed in adult rats. Due to uncertainties regarding the rate of development of the human blood-brain barrier and liver enzymes, do not administer PREZCOBIX in pediatric patients below 3 years of age.

14 CLINICAL STUDIES

The efficacy of PREZCOBIX is based on efficacy demonstrated in clinical trials of darunavir coadministered with ritonavir [*see darunavir full prescribing information*].

16 HOW SUPPLIED/STORAGE AND HANDLING

PREZCOBIX (darunavir and cobicistat) tablets, 800/150 mg, are supplied as pink, oval-shaped, film-coated tablets debossed with “800” on one side and “TG” on the other side.

PREZCOBIX is packaged in bottles of 30 tablets (NDC 59676-575-30)

Storage: Store at 20-25°C (between 68-77°F); with excursions permitted to 15°-30°C (59°-86°F) [*see USP Controlled Room Temperature*].

17 PATIENT COUNSELING INFORMATION

Advise the patient to read the FDA-approved patient labeling (Patient Information).

A statement to patients and healthcare providers is included on the product's bottle label: **ALERT: Find out about medicines that should NOT be taken with PREZCOBIX.** A Patient Package Insert for PREZCOBIX is available for patient information.

Information About HIV-1 Infection

Inform patients that PREZCOBIX is not a cure for HIV-1 infection and they may continue to experience illnesses associated with HIV-1 infection, including opportunistic infections. Inform patients that they should remain under the care of a physician when using PREZCOBIX.

Advise patients to avoid doing things that can spread HIV-1 infection to others.

- **Do not share needles or other injection equipment.**
- **Do not share personal items that can have blood or body fluids on them, like toothbrushes and razor blades.**
- **Do not have any kind of sex without protection.** Always practice safe sex by using a latex or polyurethane condom to lower the chance of sexual contact with semen, vaginal secretions, or blood.
- **Do not breastfeed.** We do not know if PREZCOBIX can be passed to the baby through breast milk and whether it could harm the baby. Also, mothers with HIV-1 should not breastfeed because HIV-1 can be passed to the baby in the breast milk.

Instructions for Use

Advise patients to take PREZCOBIX with food every day as prescribed. Inform patients not to alter the dose of PREZCOBIX or discontinue therapy with PREZCOBIX without consulting their physician.

If a patient misses a dose of PREZCOBIX by more than 12 hours, tell the patient to wait and then take the next dose of PREZCOBIX at the regularly scheduled time. If the patient misses a dose of PREZCOBIX by less than 12 hours, tell the patient to take PREZCOBIX immediately, and then take the next dose of PREZCOBIX at the regularly scheduled time. If a dose of PREZCOBIX is skipped, tell the patient not to double the next dose. Inform the patient not to take more or less than the prescribed dose of PREZCOBIX.

Hepatotoxicity

Inform patients that drug-induced hepatitis (e.g., acute hepatitis, cytolytic hepatitis) and liver injury, including some fatalities, could potentially occur with PREZCOBIX. Advise patients to contact their healthcare provider immediately if signs and symptoms of liver problems develop, including jaundice of the skin or eyes, dark (tea colored) urine, pale colored stools, nausea, vomiting, loss of appetite, or pain, aching, or sensitivity in the right upper quadrant of the abdomen.

Severe Skin Reactions

Inform patients that skin reactions ranging from mild to severe, including Stevens-Johnson Syndrome, drug rash with eosinophilia and systemic symptoms, and toxic epidermal necrolysis, could potentially occur with PREZCOBIX. Advise patients to contact their healthcare provider immediately if signs or symptoms of severe skin reactions develop, including but not limited to severe rash or rash accompanied with fever, general malaise, fatigue, muscle or joint aches, blisters, oral lesions, and/or conjunctivitis.

Renal Impairment

Inform patients that renal impairment, including cases of acute renal failure and Fanconi syndrome, has been reported when cobicistat is used in combination with a tenofovir DF-containing regimen.

Drug Interactions

PREZCOBIX may interact with many drugs; therefore, inform patients of the potential serious drug interactions with PREZCOBIX, and that some drugs should not be taken with PREZCOBIX, or some drugs may need a change in dose. Advise patients to report to their healthcare provider the use of any other prescription or nonprescription medication or herbal products, including St. John's Wort.

Instruct patients receiving hormonal contraceptives to use additional or alternative contraceptive (non-hormonal) measures during therapy with PREZCOBIX because no data are available to make recommendations regarding use of hormonal contraceptives and PREZCOBIX.

Fat Redistribution

Inform patients that redistribution or accumulation of body fat may occur in patients receiving antiretroviral therapy, including PREZCOBIX and that the cause and long-term health effects of these conditions are not known at this time.

Manufactured by:
Janssen Ortho LLC, Gurabo, PR 00778

Manufactured for:
Janssen Therapeutics, Division of Janssen Products, LP, Titusville NJ 08560

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PATIENT INFORMATION
PREZCOBIX (prez-koe-bix)
(darunavir and cobicistat)
tablets

Please read this information before you start taking PREZCOBIX and each time you get a refill. There may be new information. This information does not take the place of talking with your healthcare provider about your medical condition or treatment. **What is the most important information I should know about PREZCOBIX?**

- **PREZCOBIX may cause liver problems.** Some people taking PREZCOBIX may develop liver problems which may be life-threatening. Your healthcare provider should do blood tests before and during your treatment with PREZCOBIX. If you have chronic hepatitis B or C infection, your healthcare provider should check your blood tests more often because you have an increased chance of developing liver problems.

Tell your healthcare provider if you have any of the below signs and symptoms of liver problems.

- dark (tea colored) urine
 - yellowing of your skin or whites of your eyes
 - pale colored stools (bowel movements)
 - nausea
 - vomiting
 - pain or tenderness on your right side below your ribs
 - loss of appetite
- **PREZCOBIX may cause severe or life-threatening skin reactions or rash.** Sometimes these skin reactions and skin rashes can become severe and require treatment in a hospital. Call your healthcare provider right away if you develop a rash. **Stop taking PREZCOBIX** and call your healthcare provider right away if you develop any skin changes with symptoms below:
 - fever
 - tiredness
 - muscle or joint pain
 - blisters or skin lesions
 - mouth sores or ulcers
 - red or inflamed eyes, like “pink eye” (conjunctivitis)
 - **PREZCOBIX when taken with certain other medicines can cause new or worse kidney problems, including kidney failure.** Your healthcare provider should check your kidneys before you start and while you are taking PREZCOBIX.

See **“What are the possible side effects of PREZCOBIX?”** for more information about side effects.

What is PREZCOBIX?

PREZCOBIX is a prescription HIV-1 (Human Immunodeficiency Virus 1) medicine used with other antiretroviral medicines to treat HIV-1 infection in adults. HIV is the virus that causes AIDS (Acquired Immune Deficiency Syndrome).

PREZCOBIX contains the prescription medicines PREZISTA (darunavir) and TYBOST (cobicistat).

It is not known if PREZCOBIX is safe and effective in children under 18 years of age.

When used with other antiretroviral medicines to treat HIV-1 infection, PREZCOBIX may help:

- reduce the amount of HIV-1 in your blood. This is called “viral load”.
- increase the number of CD4+ (T) cells in your blood that help fight off other infections.

Reducing the amount of HIV-1 and increasing the CD4+ (T) cells in your blood may help improve your immune system. This may reduce your risk of death or getting infections that can happen when your immune system is weak (opportunistic infections).

PREZCOBIX does not cure HIV-1 infection or AIDS. You must keep taking HIV-1 medicines to control HIV-1 infection and decrease HIV-related illnesses.

Avoid doing things that can spread HIV-1 infection to others.

- Do not share or re-use needles or other injection equipment.
- Do not share personal items that can have blood or body fluids on them, like toothbrushes and razor blades.
- Do not have any kind of sex without protection. Always practice safe sex by using a latex or polyurethane condom to lower the chance of sexual contact with semen, vaginal secretions, or blood.

Ask your healthcare provider if you have any questions on how to prevent passing HIV to other people.

Who should not take PREZCOBIX?

Do not take PREZCOBIX with any of the following medicines:

- alfuzosin (Uroxatral[®])
- cisapride (Propulsid[®], Propulsid[®] Quicksolv)

- colchicine (Colcrys[®], Mitigare[®]), if you have liver or kidney problems
- dronedarone (Multaq[®])
- ergot-containing medicines:
 - dihydroergotamine (D.H.E. 45[®], Embolex[®], Migranal[®])
 - ergotamine tartrate (Cafergot[®], Ergomar[®], Ergostat[®], Medihaler[®], Migergot[®], Wigraine[®], Wigrettes[®])
 - methylergonovine (Methergine[®])
- lovastatin or a product that contains lovastatin (Altoprev[®], Advicor[®], Mevacor[®])
- lurasidone (Latuda[®])
- midazolam (Versed[®]), when taken by mouth
- pimozide (Orap[®])
- ranolazine (Ranexa[®])
- rifampin (Rifadin[®], Rifater[®], Rifamate[®], Rimactane[®])
- sildenafil (Revatio[®]), when used for the treatment of pulmonary arterial hypertension (PAH)
- simvastatin or a product that contains simvastatin (Simcor[®], Vytorin[®], Zocor[®])
- St. John's Wort (*Hypericum perforatum*), or a product that contains St. John's Wort
- triazolam (Halcion[®])

Serious problems can happen if you take any of these medicines with PREZCOBIX.

What should I tell my healthcare provider before taking PREZCOBIX?

Before taking PREZCOBIX, tell your healthcare provider if you:

- have liver problems, including hepatitis B or hepatitis C
- have kidney problems
- are allergic to sulfa (sulfonamide)
- have diabetes
- have hemophilia
- have any other medical condition

- are pregnant or plan to become pregnant. It is not known if PREZCOBIX will harm your unborn baby. Tell your healthcare provider if you become pregnant while taking PREZCOBIX.
 - **Pregnancy Registry:** There is a pregnancy registry for women who take antiretroviral medicines during pregnancy. The purpose of the registry is to collect information about the health of you and your baby. Talk to your healthcare provider about how you can take part in this registry.
- are breastfeeding or plan to breastfeed. Do not breastfeed if you take PREZCOBIX.
 - You should not breastfeed if you have HIV-1 because of the risk of passing HIV to your baby.
 - It is not known if PREZCOBIX can pass into your breast milk.
 - Talk to your healthcare provider about the best way to feed your baby.

Tell your healthcare provider about all the medicines you take, including prescription and over-the-counter medicines, vitamins, and herbal supplements. Some medicines interact with PREZCOBIX. **Keep a list of your medicines to show your healthcare provider and pharmacist.**

- You can ask your healthcare provider or pharmacist for a list of medicines that interact with PREZCOBIX.
- **Do not start taking a new medicine without telling your healthcare provider.** Your healthcare provider can tell you if it is safe to take PREZCOBIX with other medicines.

How should I take PREZCOBIX?

- Take PREZCOBIX exactly as your healthcare provider tells you.
- Do not change your dose or stop taking PREZCOBIX without talking to your healthcare provider.
- Take PREZCOBIX 1 time a day with food.
- If you miss a dose of PREZCOBIX by less than 12 hours, take your missed dose of PREZCOBIX right away. Then take your next dose of PREZCOBIX at your regularly scheduled time.
- If you miss a dose of PREZCOBIX by more than 12 hours, wait and then take the next dose of PREZCOBIX at your regularly scheduled time.
- If a dose of PREZCOBIX is skipped, do not double the next dose. Do not take more or less than your prescribed dose of PREZCOBIX at any one time.

- If you take too much PREZCOBIX, call your healthcare provider or go to the nearest hospital emergency room right away.

What are the possible side effects of PREZCOBIX?

PREZCOBIX may cause serious side effects including:

- See **“What is the most important information I should know about PREZCOBIX?”**
- **Diabetes and high blood sugar (hyperglycemia).** Some people who take protease inhibitors including PREZCOBIX can get high blood sugar, develop diabetes, or your diabetes can get worse. Tell your healthcare provider if you notice an increase in thirst or urinate often while taking PREZCOBIX.
- **Changes in body fat can happen in people who take HIV-1 medications.** The changes may include an increased amount of fat in the upper back and neck (“buffalo hump”), breast, and around the middle of your body (trunk). Loss of fat from the legs, arms, and face may also happen. The exact cause and long-term health effects of these conditions are not known.
- **Changes in your immune system (Immune Reconstitution Syndrome)** can happen when you start taking HIV-1 medicines. Your immune system may get stronger and begin to fight infections that have been hidden in your body for a long time. Tell your healthcare provider right away if you start having new symptoms after starting your HIV-1 medicine.
- **Increased bleeding for hemophiliacs.** Some people with hemophilia have increased bleeding with protease inhibitors including PREZCOBIX.

The most common side effects of darunavir, one of the medicines in PREZCOBIX, include:

- diarrhea
- headache
- nausea
- stomach area (abdominal) pain
- rash
- vomiting

Tell your healthcare provider if you have any side effect that bothers you or that does not go away.

These are not all of the possible side effects of PREZCOBIX. For more information, ask your health care provider.

Call your doctor for medical advice about side effects. You may report side effects to FDA at 1-800-FDA-1088.

How should I store PREZCOBIX?

- Store PREZCOBIX tablets at room temperature between 68°F to 77°F (20°C to 25°C).

Keep PREZCOBIX and all medicines out of reach of children.

General information about PREZCOBIX

Medicines are sometimes prescribed for purposes other than those listed in a Patient Information leaflet. Do not use PREZCOBIX for a condition for which it was not prescribed. Do not give PREZCOBIX to other people, even if they have the same symptoms that you have. It may harm them.

If you would like more information, talk with your healthcare provider. You can ask your healthcare provider or pharmacist for information about PREZCOBIX that is written for health professionals.

For more information call 1-800-526-7736.

What are the ingredients in PREZCOBIX?

Active ingredients: darunavir and cobicistat

Inactive ingredients: colloidal silicon dioxide, crospovidone, hypromellose, magnesium stearate, and silicified microcrystalline cellulose. The tablets are film-coated with a coating material containing iron oxide black, iron oxide red, polyethylene glycol, polyvinyl alcohol (partially hydrolyzed), talc, and titanium dioxide.

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