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An HIV Information Site &amp; HIV Educational Resource Site (HIS &amp; HERS)

## Kaletra - lopinavir + ritonavir

### General Information

Lopinavir/ritonavir (Kaletra) is almost always used as one component of a multidrug combination to suppress the human immunodeficiency (HIV) viral load.

### Specifics

Lopinavir/ritonavir is one of the most potent antiviral drugs against HIV infection. As the name "lopinavir/ritonavir" implies, it is actually a combination of two drugs in one medication: lopinavir and **ritonavir**.

Lopinavir/ritonavir works by inhibiting the production of HIV's proteins. Kaletra is classified as a protease inhibitor (PI) combination.

### Dosing

Generally lopinavir/ritonavir is taken as two (2) film-coated tablets twice a day with or without food OR three capsules twice a day with food. It is very important to take the gel capsule form of lopinavir/ritonavir with food to prevent it from irritating your stomach and bowels. *The film-coated tablets are new as of October 28, 2005 and may not have reached pharmacies if you are reading this near that date.*

Lopinavir/ritonavir is also approved by the FDA for once-a-day dosing: 6 (six) gel caps once-a-day with food. There is a bit more upset stomach, nausea, and diarrhea when lopinavir/ritonavir is taken once-a-day. Once-a-day dosing should be taken only by persons who are just starting antiretroviral therapy or who have NO resistance to any of the drugs used.

When lopinavir/ritonavir is taken with certain other drugs such as **efavirenz** (Sustiva) or **nevirapine** (Viramune), the dose is usually increased to 4 capsules twice a day with food.

There is also a liquid form available; however, the liquid tastes very strong and may be disagreeable to many people.

Lopinavir/ritonavir gel caps should be refrigerated for best results. However, the capsules can be stored for up to 30 days outside the refrigerator if the room temperature is less than or equal to 78 degrees Fahrenheit.

## Adherence

(this refers to your willingness, ability, and actual performance in taking your medications)

For further information and tips on adherence, go to the **Adherence section** of this site.

**The "all or none" rule applies to all antiviral medications such as lopinavir/ritonavir: you should commit yourself to taking every dose, every day OR take none at all. Missing doses leads to a worsening of HIV infections (resistance to medications) and makes finding a good antiviral medication harder to do.**

**As with any antiviral drug or antibiotic, try not to ever miss a dose.** If you miss a dose and notice that you have done so within a few hours of its scheduled time, you may take the dose as usual and take the next dose at its regular time.

You should never change the dose of lopinavir/ritonavir without speaking to your healthcare provider first.

**If you miss more than one dose, look at the reasons why you missed them and come up with a plan to avoid it in the future.** For example, if you fell asleep too early, take the medicine earlier in the evening, with your later meal, set an alarm, or have someone appointed to wake you up for your medicine.

It is strongly recommended that you consider using weekly pill boxes and arrange all of your doses a week in advance. Buy a small pill box so that you can carry a dose or two of your medicines with you in case you are away from home.

## Possible Side Effects

The package insert for most drugs including lopinavir/ritonavir is often overwhelming and scary with perhaps an overemphasis on side effects. We have summarized the important and more common problems

**Many people take lopinavir/ritonavir without many side effects.**

Possible side effects include kidney stones, stomach upset, diarrhea, nausea, liver problems, increased fat (cholesterol and triglycerides) in the blood, turning yellow with jaundice, numbness of the lips or mouth, and possibly diabetes.

Usually you will have blood tests done in the first month to look for the beneficial effects of lopinavir/ritonavir and any side effects.

Many minor side effects will either stay constant or get better with time. It is mainly the side effects that are severe or get worse that may cause significant health risks for you.

All drugs of this type can cause or contribute to abnormal fat redistribution characterized by an enlarged belly, thinning of the face, arms, or legs. In most cases this would be also accompanied by elevated cholesterol levels, elevated triglyceride levels, and perhaps a tendency to develop diabetes.

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Many other drugs have interactions with saquinavir that may be helpful, harmful, or even deadly.

Make sure that you tell your healthcare provider about all of your medications including over-the-counter ones.

**Some medications should NOT be taken at all with Kaletra:**

Antihistamines: terfenadine (Seldane), astemizole (Hismanal)

Drugs to increase esophagus and stomach movement: cisapride

Drugs to regulate heart rhythm: flecainide (Tambocor), propafenone (Rhythmol, Rhythmol SR)

Ergot derivatives for migraine headaches: dihydroergotamine (D.H.E. 45), ergonovine, ergotamine, methylergonovine (Methergine)

Drugs to treat mental health problems (Tourette's syndrome): pimozide (Orap)

Sedatives/sleeping pills: midazolam (Versed), triazolam (Halcion)

All statins (drugs to decrease cholesterol) other than atorvastatin (Lipitor), pravastatin (Pravachol)

Natural remedies: St John's wort, garlic capsules

Tuberculosis treatment: rifampin (Rifadin, Rimactane, Rifamate)

Drugs to prevent seizures: phenytoin (Dilantin)

Antifungals: voriconazole (Vfend)

Protease inhibitor: **fosamprenavir** (Lexiva)

**Certain drugs should be used only very cautiously:**

Fluticasone (Flonase)

Drugs to prevent seizures: phenytoin (Dilantin)

All erectile dysfunction drugs: sildenafil (Viagra), tadalafil (Cialis), vardenafil (Levitra)

Drugs to prevent rejection of transplanted organs or bone marrow: cyclosporine (Neoral, Sandimmune), tacrolimus (FK506, Prograf), sirolimus (Rapamune)

Drugs to treat mycobacteria or TB-like infections: Rifabutin (Mycobutin)

Pain medication: methadone (Dolophine, Methadose)

Oral contraceptive pills (another form of contraception should be used in addition)

Statin drugs: atorvastatin (Lipitor), pravastatin (Pravachol)

Antibiotics: clarithromycin (Biaxin)

Antifungals: ketoconazole (Nizoral), itraconazole (Sporanox)

Drugs to prevent seizures: carbamazepine (Tegretol), phenobarbital

**It is unclear how once-a-day dosing of lopinavir/ritonavir should be taken with **nevirapine** or **efavirenz**. It may be advisable to avoid once-a-day dosing when taking either of these drugs until further information is**

## Interactions

This refers to the way that Kaletra affects other medications and how other medications affect Kaletra.

available.

**Report to you healthcare provider or go to an Emergency Room** if you have severe side effects, skin rash, increasing side effects, shortness of breath, uncontrollable diarrhea, back pain, groin pain, fever, weakness, jaundice (eyes and skin turn yellow,) muscle pain, nausea and vomiting so that you cannot hold down your food and liquids.

You can download this handout in PDF format by clicking [HERE](#).

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