## Everolimus

### Names
The generic drug name is everolimus (eh-vuh-role-uh-muss). The brand drug name is Afinitor®. There may be other names for this medication.

### How is Everolimus Administered?
Everolimus is taken by mouth, as a tablet. Take it at the same time each day, with a whole glass of water. Swallow the tablet whole - do not chew or crush the tablet. Do not touch tablets that have broken or crumbled. Everolimus also comes as a tablet meant to be put in water. **Do not take both types of tablets – take one type or the other.**

### Why am I Taking Everolimus?
This drug is used to treat advanced renal cell (kidney) cancer, breast cancer that has spread to other parts of the body (metastasis), advanced neuroendocrine tumors in the pancreas (PNET), and brain tumors called SEGAs (subependymal giant cell astrocytomas).

### How Does Everolimus Work?
Cancer is a group of diseases in which abnormal cells multiply without control. Traditional chemotherapy agents identify cancer cells by their rapid rate of division (reproduction) – and then attack those cells. Unfortunately, it also attacks normal cells that divide quickly.

Targeted therapy identifies other differences between normal cells and cancer cells, and then uses that difference to attack the cancer cells, sparing the normal cells.

Everolimus is a type of targeted therapy called an mTOR (mammalian target for rapamycin) inhibitor. It interferes with the master switch that controls cancer cell growth and reproduction. Everolimus also works by reducing the levels of some growth factors that the tumor needs to create new blood vessels. By blocking the creation of these new blood vessels (a process called *angiogenesis*), the tumor cannot get the oxygen and nutrients it needs to grow.

### What Should I Tell My Doctor Before I Begin?
Tell your doctor if you:
- are allergic to everolimus, sirolimus, temsirolimus, or have allergies
- have or have ever had diabetes or high blood sugar; high levels of cholesterol or triglycerides in your blood; kidney or liver disease; or any condition that prevents you from digesting foods containing sugar, starch, or dairy products normally.
What Should I Tell My Doctor Before I Begin?
(cont.)

- take herbal products, especially St. John's wort
- have an infection now, or have had hepatitis B
- are pregnant or breastfeeding

This drug may interact with other medications or cause harmful side effects. Tell your doctor and pharmacist about any prescription or over-the-counter medications, vitamins, herbal or diet supplements that you are taking.

What Are Some Possible Side Effects?

- Mouth sores, mouth or esophageal irritation, changes in your sense of taste, dry mouth
- Infection, fever
- Skin problems: Rash, itching dry skin
- Fatigue, weakness, sleep problems
- Diarrhea
- Stomach pain, cramping, nausea, vomiting
- Edema, swelling
- Abnormal blood test results: High cholesterol, triglycerides, blood sugar and creatinine (High creatinine may indicate kidney problems). Low calcium and phosphate. Elevated liver enzymes may indicate liver problems.
- Headache

Less common

- Cough, shortness of breath, and/or lung problems
- Muscle or joint pain
- High blood pressure or hypertension
- Bleeding problems: nosebleeds, irregular/heavy menstrual periods
- Fertility problems

How Can I Manage These Side Effects?

- Drink at least 2-3 quarts of fluid (especially water) every 24 hours, unless your doctor tells you otherwise.
- Mouth care is very important. To minimize mouth problems, rinse your mouth with a mixture of ½ tsp of baking soda in 8 oz of water after every meal and at bedtime. Brush your teeth and gums often with a soft toothbrush. (Soften it further by running it under warm water). Avoid smoking, alcohol, and mouthwashes that contain alcohol.
- Use saliva substitute and apply lip moisturizer (chapstick) if needed. Suck on hard candies.
- If your mouth is irritated, use topical or local agents such as Orajel or Zilactin-B, and apply generously. You can use equal parts of xylocaine viscous solution, Zovirax® (alcohol-free), and Maalox® (or Mylanta®). Swish the mixture around in
your mouth and then spit it out. You can use this rinse every 2-4 hours as needed.

- Wash your hands thoroughly, and often. If your doctor says you are at risk for infection, stay away from large crowds or people with a cold, flu, or other infections. Talk to your doctor before you have any vaccinations.

- You may burn more easily, so avoid exposure to direct sunlight. Use sunscreen with SPF of 30 or higher. Wear protective clothing - wide-brimmed hats, long-sleeved shirts, and pants. Keep your neck, chest, and back covered. Do not use tanning beds. Talk to your doctor before using any skin creams/lotions for a rash.

- To help prevent nausea, avoid spicy, greasy, and acidic food instead of 2-3 large meals. Eat small meals or snacks more frequently. Ask your doctor about medication to help prevent or lessen headache, nausea, or diarrhea.

- **Do not take medication for any side effect without your doctor’s approval.**

- To help prevent bleeding problems, be careful when handling sharp objects. Stay away from rough sports and situations where you could be bruised or injured. Use an electric razor.

**When Should I Call the Doctor?**

**Call your doctor immediately if you have:**

- signs of infection: Fever of 100.4°F (38°C) or higher, chills, sore throat, painful urination; ear pain, sinus pressure, or redness, pain, and swelling at the site of any break in the skin or injury.

- signs of an allergic reaction: itching or hives, swelling in your face or hands, chest tightness, dizziness, or palpitations. If you have trouble breathing or swallowing, or throat/tongue swelling, call 911 or go to the nearest hospital ER.

- unusual bruising or bleeding: bleeding lasts more than 10-15 minutes or that causes dizziness; black or bloody stools; vomit that is bloody or that looks like coffee grounds; blood in your urine or phlegm/mucus, or superficial bleeding into the skin that appears as a rash of pinpoint-sized reddish-purple spots (petechiae)

- extreme thirst or hunger

**Call Your doctor as soon as possible if you have:**

- nausea or vomiting that does not respond to prescribed medication or that prevents you from eating or drinking

- diarrhea (4-6 episodes) or vomiting more than 4 times in 24-hours

- extreme fatigue (unable to care for yourself)

- yellowing of your skin or eyes
What Else Should I Know About Everolimus?

- This medication comes in individual blister packs. Do not open a blister pack until you are ready to take that tablet.
- Cuts or other wounds may heal more slowly while you are taking everolimus.
- Do not become pregnant or father a child while on everolimus. This drug may be harmful to the fetus. Both men and women should use effective methods of birth control during your treatment and for 2 months after treatment has ended. If you or your partner becomes pregnant, call your doctor immediately.
- If you are having surgery, including dental surgery, tell the doctor or dentist that you are receiving everolimus.
- Do not eat star fruit, Seville oranges, or grapefruits or drink grapefruit juice while taking this medication.
- Do not breastfeed while taking everolimus.
- You may have altered lab (blood) tests from this medication. You must keep all your doctor and lab appointments.
- If you would like more information about everolimus, talk to your doctor or pharmacist.