Ixazomib (Ninlaro®)

**Pronounced:** ix-AZ-oh-mib

**Classification:** proteasome inhibitor

**About Ixazomib (Ninlaro®)**

Ixazomib works by inhibiting the 20S proteasome. A proteasome is an enzyme that is responsible for breaking down proteins in all cells (healthy or cancerous). By blocking the action of 20S proteasome, protein builds up in the cells and causes them to die, therefore preventing tumor growth.

**How to Take Ixazomib**

Ixazomib is a capsule taken orally (by mouth). Swallow the capsule whole with water. Do not crush, chew, or open the capsules. Take your dose at least one hour before or at least two hours after food. If you are taking dexamethasone, do not take both medications at the same time. Take your dexamethasone with food.

Your provider will give you a schedule to follow for taking this medication. If you miss your dose, it should only be taken if the next dose is more than 3 days (72 hours) away from the next scheduled dose. Do not double your dose to make up for a missed dose. If you vomit soon after taking your dose, do not repeat the dose, but take your next dose as scheduled.

It is important to make sure you are taking the correct amount of medication every time. Before every dose, check that what you are taking matches what you have been prescribed. If you take too much medication call your provider right away or go to the closest emergency room.

The blood levels of this medication can be affected by certain foods and medications, so they should be avoided. These include: rifampin, phenytoin, carbamazepine and St. John’s wort. Be sure to tell your healthcare provider about all medications and supplements you take.

This medication can cause a herpes zoster reactivation. You may be started on medications called antivirals to prevent this from happening. You should tell your provider if you have a history of herpes zoster.

**Storage and Handling**

Store your medication in the original, labeled container at room temperature and in a dry location (unless otherwise directed by your healthcare provider or pharmacist). This medication should not be stored in a pillbox. Keep containers out of reach of children and pets.

If a caregiver prepares your dose for you, they should consider wearing gloves or pour the pills directly from their container into the cap, a small cup, or directly into your hand. They should avoid touching the pills. They should always wash their hands before and after giving the medication. Pregnant or nursing women should not prepare the dose for you. Ask your oncology team where to return any unused medication for disposal. Do not flush down the toilet or throw in the trash.

**Where do I get this medication?**

Ixazomib is available through select specialty pharmacies. Your oncology team will work with your prescription drug plan to identify an in-network specialty pharmacy for the distribution of this medication and shipment directly to your home.
Insurance Information

This medication may be covered under your prescription drug plan. Patient assistance may be available to qualifying individuals without prescription drug coverage. Co-pay cards, which reduce the patient co-pay responsibility for eligible commercially (non-government sponsored) insured patients, may also be available. Your care team can help you find these resources if they are available.

Possible Side Effects

There are a number of things you can do to manage the side effects of ixazomib. Talk to your care team about these recommendations. They can help you decide what will work best for you. These are some of the most common or important side effects:

Low Platelet Count (Thrombocytopenia)

Platelets help your blood clot, so when the count is low you are at a higher risk of bleeding. Let your oncology care team know if you have any excess bruising or bleeding, including nose bleeds, bleeding gums, or blood in your urine or stool. If the platelet count becomes too low, you may receive a transfusion of platelets.

- Do not use a razor (an electric razor is fine).
- Avoid contact sports and activities that can result in injury or bleeding.
- Do not take aspirin (salicylic acid), non-steroidal, anti-inflammatory medications (NSAIDs) such as Motrin/Advil (ibuprofen), Aleve (naproxen), Celebrex (celecoxib) etc. as these can all increase the risk of bleeding. Please consult with your healthcare team regarding the use of these agents and all over the counter medications/supplements while on therapy.
- Do not floss or use toothpicks and use a soft-bristle toothbrush to brush your teeth.

Your platelet count will be monitored at least monthly during treatment with ixazomib.

Low White Blood Cell Count (Leukopenia or Neutropenia)

White blood cells (WBC) are important for fighting infection. While receiving treatment, your WBC count can drop, putting you at a higher risk of getting an infection. You should let your doctor or nurse know right away if you have a fever (temperature greater than 100.4°F/38°C), sore throat or cold, shortness of breath, cough, burning with urination, or a sore that doesn't heal.

Tips to preventing infection:

- **Washing hands**, both yours and your visitors, is the best way to prevent the spread of infection.
- Avoid large crowds and people who are sick (i.e.: those who have a cold, fever or cough or live with someone with these symptoms).
- When working in your yard, wear protective clothing including long pants and gloves.
- Do not handle pet waste.
- Keep all cuts or scratches clean.
- Shower or bath daily and perform frequent **mouth care**.
- Do not cut cuticles or ingrown nails. You may wear nail polish, but not fake nails.
- Ask your oncology care team before scheduling dental appointments or procedures.
- Ask your oncology care team before you, or someone you live with has any vaccinations.

Diarrhea

Your oncology care team can recommend medications to relieve diarrhea. Also, try eating low-fiber, bland foods, such as white rice and boiled or baked chicken. Avoid raw fruits, vegetables, whole grain breads, cereals, and seeds. Soluble fiber is found in some foods and absorbs fluid, which can help relieve diarrhea. Foods high in soluble fiber include: applesauce, bananas (ripe), canned fruit, orange sections, boiled potatoes, white rice, products made with white flour, oatmeal, cream of rice, cream of wheat, and farina. Drink 8-10 glasses of non-alcoholic, un-caffeinated fluid a day to prevent dehydration.
**Constipation**
There are several things you can do to prevent or relieve constipation. Include fiber in your diet (fruits and vegetables), drink 8-10 glasses of non-alcoholic fluids a day, and keep active. A stool softener once or twice a day may prevent constipation. If you do not have a bowel movement for 2-3 days, you should contact your healthcare team for suggestions to relieve the constipation.

**Nausea and/or Vomiting**
Talk to your oncology care team so they can prescribe medications to help you manage nausea and vomiting. In addition, dietary changes may help. Avoid things that may worsen the symptoms, such as heavy or greasy/fatty, spicy or acidic foods (lemons, tomatoes, oranges). Try saltines, or ginger ale to lessen symptoms.

Call your oncology care team if you are unable to keep fluids down for more than 12 hours or if you feel lightheaded or dizzy at any time.

**Peripheral Neuropathy (Numbness or Tingling in the Hands and/or Feet)**
Peripheral neuropathy is a toxicity that affects the nerves. It causes a numbness or tingling feeling in the hands and feet, often in the pattern of a stocking or glove. This can get progressively worse with additional doses of the medication. In some people, the symptoms slowly resolve after the medication is stopped, but for some it never goes away completely. You should let your healthcare provider know if you experience numbness or tingling in the hands and feet, as they may need to adjust the doses of your medication.

**Peripheral Edema**
Peripheral edema is swelling of the extremities caused by the retention of fluid. It can cause swelling of the hands, arms, legs, ankles and feet. The swelling can become uncomfortable. Notify your oncology care team if you are experiencing any new or worsening swelling.

**Back Pain**
Your doctor or nurse can recommend medication and other strategies to relieve pain.

**Eye Concerns**
While receiving ixazomib, some patients may develop blurred vision, dry eye, and conjunctivitis (inflammation and redness). Notify your healthcare team if you develop any eye pain, swelling, redness, or any vision changes, including blurriness and sensitivity to light.

**Less common, but important side effects can include:**
- **Rash:** Some patients may develop a rash, scaly skin, or red itchy bumps. Use an alcohol-free moisturizer on your skin and lips; avoid moisturizers with perfumes or scents. Your doctor or nurse can recommend a topical medication if itching is bothersome. If your skin does crack or bleed, be sure to keep the area clean to avoid infection. Be sure to notify your healthcare provider of any rash that develops, as this can be a reaction. They can give you more tips on caring for your skin.
- **Liver Toxicity:** This medication can cause liver toxicity, which your doctor may monitor for using blood tests called liver function tests. Notify your healthcare provider if you notice yellowing of the skin or eyes, your urine appears dark or brown or pain in your abdomen, as these can be signs of liver toxicity.

**Reproductive Concerns**
Exposure of an unborn child to this medication could cause birth defects, so you should not become pregnant or father a child while on this medication. Effective birth control is necessary during treatment and for at least 90 days after treatment. Even if your menstrual cycle stops or you believe you are not producing sperm, you could still be fertile and conceive. Women who use a hormonal form of birth control should also use a barrier form of birth control during this time. You should not breastfeed while receiving this medication and for 90 days after the final dose.