Belinostat (Beleodaq®)

Pronounced: be-lin-oh-stat

Classification: Histone Deacetylase Inhibitor

About Belinostat (Beleodaq®)

Belinostat is in a class of anti-cancer therapies called histone deacetylase (HDAC) inhibitors. Histone deacetylation is a biochemical process that is thought to play a role in promoting tumor growth. It does this by silencing some tumor suppressor genes, as well as other genes that are responsible for cell cycle progression, cell proliferation, programmed cell death (apoptosis), and differentiation (transformation of young cells into specialized cells). Therefore, blocking histone deacetylation may allow the body to block tumor growth and prevent progression.

How to Take Belinostat

Belinostat is given by intravenous (IV, into a vein) infusion. The dose and how often you receive this medication is based on your weight and will be decided by your provider. Your dose may be reduced if you are having severe side effects.

Possible Side Effects of Belinostat

There are a number of things you can do to manage the side effects of belinostat. 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:

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.

Fatigue

Fatigue is very common during cancer treatment and is an overwhelming feeling of exhaustion that is not usually relieved by rest. While on cancer treatment, and for a period after, you may need to adjust your schedule to manage fatigue. Plan times to rest during the day and conserve energy for more important activities. Exercise can help combat fatigue; a simple daily walk with a friend can help. Talk to your healthcare team for helpful tips on dealing with this side effect.

Fever

Fever can be a side effect of this medication. Contact your care provider for a temperature of 100.4 °F or 38 °C or greater.

Low Red Blood Cell Count (Anemia)

Your red blood cells are responsible for carrying oxygen to the tissues in your body. When the red cell count is low, you may feel tired or weak. You should let your oncology care team know if you experience any shortness of breath, difficulty breathing or pain in your chest. If the count gets too low, you may receive a blood transfusion.

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.

**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 on non-alcoholic, un-caffeinated fluid a day to prevent dehydration.

**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 oncology care team 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 oncology care team of any rash that develops, as this can be a reaction. They can give you more tips on caring for your skin.

**Peripheral Edema**

Peripheral edema is swelling of the extremities caused by 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.

**Less common, but important side effects can include:**

- **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 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.
- **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 or 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.
• **Infection:** This medication can cause infections including pneumonia and sepsis (bloodstream infection). If you are experiencing fever greater than 100.4 or 38°C, flu-like symptoms, cough, shortness of breath, burning with urination, muscle aches, or worsening skin problems contact your provider.

• **Liver Toxicity:** This medication can affect how your liver functions. Your oncology team will monitor your liver function with blood tests. Contact your care team if you develop jaundice (yellowing of the skin of whites of the eyes), itchy skin, tea colored urine or abdominal pain, as these can be signs of liver problems.

• **Tumor Lysis Syndrome:** If there are a large amount of tumor cells in your body prior to treatment, you are at risk for tumor lysis syndrome. This happens when the tumor cells die too quickly and their waste overwhelms the body. You may be given a medication (allopurinol) and IV fluids to help prevent this. If you experience nausea, vomiting, diarrhea or become lethargic (drowsy, sluggish), notify your oncology team right away. TLS can affect your kidney function. Your provider will monitor your kidney function with blood work. Notify your provider if you have little or no urine output.

**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. Even if your menstrual cycle stops or you believe you are not producing sperm, effective birth control is necessary during treatment and for 6 months after your last dose for women and 3 months after your last dose for men. Men should speak with their care team regarding the possibility of reproductive concerns in the future. You should not breastfeed while receiving this medication or for 2 weeks after your last dose.