**Generic Name:** Rituximab  
**Trade Name:** Rituxan, MabThera

**Drug Type:**  
Rituxan is a targeted therapy classified as a monoclonal antibody.

**What Conditions are Treated by Rituxan:**  
Rituxan is FDA-approved for treatment of chronic lymphocytic leukemia (CLL), certain types of non-Hodgkin's lymphoma (NHL), and certain autoimmune disease conditions. Rituxan is frequently used in combination with other drugs, including chemotherapy and other targeted therapies, for the treatment of WM.

**How Rituxan Is Given:**  
Rituxan is given as an infusion into a vein (intravenous, IV). There is no pill form of Rituxan.

Medications are given before the infusion to reduce the occurrence of infusion-related symptoms.

The amount of Rituxan you will receive depends on many other factors, including your height and weight, your general health or other health problems, and the type of cancer you have. Your doctor will determine your dosage and schedule.

**Rituxan Side Effects:**  
Most people do not experience all of the Rituxan side effects listed. Side effects are often predictable in terms of their onset, duration, and severity. They are almost always reversible and will go away after treatment is completed.

The following Rituxan side effects are common (occurring in greater than 30% of patients): fever and chills, flu-like symptoms.

The following are less common side effects (occurring in 10-30% of patients): weakness, nausea, headache, cough, runny nose, shortness of breath, sinusitis, and throat irritation.

A potential side effect of Rituxan therapy is a severe infusion reaction, typically with the first infusion (during infusion or within 30-120 minutes of infusion). You will be given medication prior to the infusion to reduce the occurrence and severity of this reaction and monitored carefully during the infusion. If signs of reaction occur, the infusion is stopped. In most cases, the infusion can be restarted at a slower rate once symptoms subside.

Extended use of Rituxan, as in maintenance therapy, can lead to an increased incidence of sinusitis and bronchial infections.

Other rare but serious Rituxan side effects include a recurrence of chest pain or irregular heartbeats in patients who have had them in the past. If these occur, tell your doctor or nurse so that you can be treated. Also, rapid destruction of cancer cells can cause kidney problems. The use of Rituxan may activate or exacerbate certain viruses, including JC virus (which can cause a brain infection in the immunosuppressed), hepatitis B and C, herpes zoster (shingles), and cytomegalovirus. Late-onset neutropenia (a decrease in a certain type of white blood cell called a neutrophil) has been reported to occur with Rituxan use.
When to Contact Your Doctor or Health Care Provider:
Contact your health care provider immediately, day or night, if you should experience any of the following symptoms: fever of 100.5°F (38°C) or chills (both are possible signs of infection), shortness of breath, chest pain or discomfort, swelling of your lips or throat, confusion.

The following symptoms require medical attention. Contact your health care provider if you notice any of the following: rash, sore joints, nausea, vomiting, sore throat, cough, pain or burning with urination.

Before starting Rituxan treatment, make sure you tell your doctor about any other medications you are taking.

Always inform your health care provider if you experience any unusual symptoms.

Self Care Tips While Taking Rituxan:
Rituxan may cause temporary low blood pressure during the infusion. If you are taking medication to reduce your blood pressure, check with your doctor or nurse about whether you should take it as usual or not before the infusion.

You may experience shortness of breath, feel flushed, or experience dizziness during the infusion. You will most likely receive medication before the infusion to help reduce these side effects, and you will be closely monitored during the infusion.

For flu-like symptoms, keep warm with blankets and drink plenty of liquids. There are medications that can help reduce the discomfort caused by chills. Drink 2 to 3 quarts of fluid daily for the first 48 hours after each infusion, unless you were told to restrict your fluid intake. Rituxan infrequently causes nausea. But if you should experience nausea, take anti-nausea medications as prescribed by your doctor, and eat small, frequent meals. In general, drinking alcoholic beverages should be avoided. Maintain good nutrition.

Monitoring and Testing While Taking Rituxan:
Your blood pressure, temperature, and pulse will be checked regularly while you are receiving a Rituxan infusion. You will be checked regularly by your health care provider while you are taking Rituxan treatments to monitor side effects and check your response to therapy. Periodic blood work to monitor your complete blood count (CBC) as well as the function of other organs (such as your kidneys and liver) may also be ordered by your doctor.

How Rituxan Works:
Rituxan is classified as a monoclonal antibody. Monoclonal antibodies are a relatively new type of targeted cancer therapy.

Normally, the body creates antibodies in response to an antigen (such as a protein in a bacteria or virus) that has entered the body. The antibodies attach to the antigen in order to mark it for destruction by the immune system. To make anti-cancer monoclonal antibodies in the laboratory, scientists analyze specific antigens on the surface of cancer cells (the targets). Then, using animal and human proteins, they create a specific antibody that will attach to the target antigen on the cancer cells. When given to the patient, these monoclonal antibodies will attach to matching antigens like a key fits a lock.

Since monoclonal antibodies target only specific cells, they may cause less toxicity to healthy cells. Monoclonal antibody therapy is given only for cancers in which antigens (and the respective antibodies) have been identified.
Rituxan works by targeting the CD-20 antigen on normal and malignant B-cells. Then the body's natural immune defenses are recruited to attack and kill the marked B-cells. Stem cells (young cells in the bone marrow that will develop into the various types of cells) do not have the CD-20 antigen and are not harmed by Rituxan. This allows healthy B-cells to regenerate after treatment.

**NOTE:** The information in this fact sheet is intended to be helpful and educational, but it does not constitute an endorsement by the IWMF and is not meant to be a substitute for professional medical advice.

(Adapted from the Chemocare website, [www.chemocare.com](http://www.chemocare.com), sponsored by the Cleveland Clinic)