

Rituximab

Rituximab is a monoclonal antibody medication targeting CD20, a protein expressed on B-cells. For this reason, this medication is effective in treating disorders of B-cell malignancy, dysfunction or excess. Side effects of using this medication include infusion reactions at the site of IV administration, and the development of skin and oral reactions. Rituximab is associated with infusion reactions, reactivation of hepatitis B virus, and the development of progressive multifocal leukoencephalopathy.



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Indications

Chronic Lymphocytic Leukemia (CLL)

[CaLL me Crone](#)

Rituximab destroys both normal and malignant B cells that have CD20 on their surfaces, and can be used for lymphomas and leukemias. Rituximab is indicated in treating previously untreated and previously treated CD20-positive CLL.

Non-Hodgkin Lymphoma

[Nun-hog-king with Lime-foam](#)

Rituximab destroys both normal and malignant B cells that express CD20 on their surfaces and can be used for the treatment of lymphomas and leukemias. This medication is indicated for treating previously untreated, stable, and refractory cases of non-Hodgkin lymphoma (NHL)

Rheumatoid Arthritis

[Roman King-Arthur](#)

Rituximab, when used in combination with methotrexate, is indicated for the treatment of adult patients with moderately to severely active rheumatoid arthritis (RA) who have had an inadequate response to one or more TNF-inhibitor therapies.

Microscopic Polyangiitis (MPA)

[Microscope Polly-angel](#)

Rituximab is combined with glucocorticoids to treat microscopic polyangiitis (MPA), a small vessel vasculitis.

Granulomatosis with Polyangiitis (Formerly Wegener's)

[Granny-llama with Polly-angel](#)

Rituximab is indicated for the treatment of adult patients with Granulomatosis with Polyangiitis (GPA) (formerly Wegener's Granulomatosis), and is used in combination with glucocorticoids.

Mechanism

Monoclonal Antibody Against CD20

Monocle Ant-tie-body with CD (20) Dollar-bill

Rituximab is a monoclonal antibody targeting CD20. This means that it is derived from identical immune cells, all clones of a unique parent cell, producing a specific antibody against the CD20 protein expressed on B-cells.

Found on B Cell Neoplasms

Basket-balls

CD20 is widely expressed on B-cells, and Rituximab binds as an antibody to these CD20 proteins. Once bound, a conformational change occurs, making these "tagged" B-cells easily identifiable by natural killer (NK) cells.

Side Effects

Infusion Reactions

In-fused-IV Reaction

During IV administration of rituximab or within 24 hours, patients may develop infusion reactions. These reactions are characterized by hives, rash, itching, facial or oral swelling, sudden cough, shortness of breath, difficulty breathing, and chest pain.

Skin and Mouth Reactions

Skin-suit and Mouth Reactions

During IV administration of rituximab or within 24 hours, patients may develop infusion reactions. These reactions are characterized by hives, rash, itching, facial or oral swelling, sudden cough, shortness of breath, difficulty breathing, and chest pain.

Reactivation of Hepatitis B Virus (HBV)

Happy-tie-liver Bee

Patients who have had hepatitis B or are carriers of hepatitis B virus may develop a reactivation infection from rituximab. Patients should not take this medication if they have active HBV liver disease, as reactivation may lead to worsening liver disease or death. Patients taking this drug should have diagnostic blood work done prior to administration, and should be followed for several months after rituximab is initiated by their provider.

Progressive Multifocal Leukoencephalopathy (PML)

PML-brain

There is also an association between rituximab administration and the development of progressive multifocal leukoencephalopathy (PML). This is a rare, rapidly progressive, and usually fatal condition caused by the reactivation of the JC virus. Symptoms include focal neurological deficits, blurred or lost vision, and seizures.