

MEDICATION NAME:	RITUXIMAB (ANTI-CD20 MONOCLONAL ANTIBODIES) BRAND : RITUXAN, TRUXIMA, RUXIENCE, RIABNI
HOW IS IT GIVEN:	Intravenous (IV) infusion.
HOW DOES IT WORK:	CD-20 is a marker on the surface of certain immune cells. Anti-CD20 is a monoclonal antibody that attaches to this surface marker and depletes B lymphocytes, including the B cells that produce autoantibodies, such as those that attach to platelets in patients with ITP.
COMMON DOSING REGIMENS:	375 mg/m ² weekly intravenously over 4 weeks. Lower doses and shorter courses may be effective in some patients.
COMMON SIDE EFFECTS	Infusion reactions, especially with the first infusion. Less common: serum sickness, late-onset neutropenia, and infection.
RARE BUT SERIOUS SIDE EFFECTS	Reactivation of hepatitis B virus, allergic reaction, progressive multifocal leukoencephalopathy (rare serious brain infection; only 1 case ever reported in an ITP patient). There is a 'black box' warning to caution users to the rare but potential mouth and skin reactions some of which. Are called: paraneoplastic pemphigus, Stevens-Johnson syndrome, lichenoid dermatitis, vesiculobullous dermatitis, and toxic epidermal necrolysis. Because B lymphocytes make our healthy immunoglobulins as well as the antibodies responsible for ITP, some patients develop hypogammaglobulinemia (stop making healthy immunoglobulins) after rituximab use and require regular immunoglobulin infusions. Patients with primary ITP do not develop hypogammaglobulinemia unless treated concomitantly with dexamethasone.
TYPICAL TIME TO RESPONSE	1-7 weeks.
LIKELIHOOD OF INITIAL RESPONSE	Approximately 40-65%
LIKELIHOOD OF LONG-TERM RESPONSE (3-5 YEARS)	Approximately 20%
OTHER CONSIDERATIONS:	Consider quantifying immunoglobulins prior to administration since B cells will be depleted and antibody production will be reduced for 6-9 months. Vaccination should be given before Rituximab use if possible, or should be delayed until B cell recovery has occurred. Rarely, some people require immunoglobulin replacement after treatment.

References:

1. Matzdorff, A., Meyer, O., Ostermann, H., Krefeld, V., Eberi, W., Kuhn, T., Pabinger I., and Rommel, M. (2018). Immune Thrombocytopenia – Current Diagnostics and Therapy: Recommendations of a Joint Working Group of DGHO, OGHO, SGH, GPOH, and DGTI. *Oncology Research Treatment*. 41(suppl 5):1-30.
2. Patel, V.L et al. (2012). Outcomes 5 years after the response to rituximab therapy in children and adults with immune thrombocytopenia. *Blood*. June 21: 119(25): 5989-5995.
3. Platelet Disorder Support Association. <https://www.pdsa.org/b-cell-depletion.html>
4. Rituxan Website. <https://www.rituxan.com/>