

Romiplostim

Second Line Treatment

Romiplostim is a Thrombopoietin Receptor Agonist (TPO-RA) that is used to treat low blood platelet counts.

Thrombopoietin (TPO) is a hormone produced in the liver that naturally controls the development of megakaryocytes, the large cell-producing platelets in the bone marrow.

TPO receptor agonists (TPO-RAs) bind to the same receptor and prompt megakaryocytes in the bone marrow to produce more platelets.



BRAND NAMES Nplate



HOW DOES THE TREATMENT WORK?

Romiplostim stimulates the megakaryocytes in the bone marrow to produce more platelets.



HOW IS IT ADMINISTERED?

A weekly subcutaneous injection is usually administered by a healthcare professional. With training, this treatment can be administered at home.



DOSAGE

The recommended initial dose for romiplostim is 1 µg/kg, based on the child's body weight. Future dose adjustments are based on platelet counts and body weight changes. The child's body weight should be reassessed every 12 weeks.

The maximum dose for romiplostim is 10 µg/kg.



COMMON SIDE EFFECTS

The most common side effects in children include bruising, headache, joint and muscle pain, upper respiratory tract infection and pain in the mouth and throat.



RARE SIDE EFFECTS

The platelet count may drop if the drug is stopped abruptly. Patients may have a higher risk of developing a blood clot when treated with a TPO-RA compared to some other ITP treatments.

People who take Romiplostim may have an increased risk of developing new or worsening scarring in the bone marrow called 'increased reticulin'. Upon stopping this treatment, this can be reversible.

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TREATMENT RESPONSE

1- 3 weeks



LIKELIHOOD OF AN INITIAL RESPONSE

Approximately 60-90% of patients have an initial response of a platelet count greater than $50 \times 10^9/L$.



LIKELIHOOD OF A LONG-TERM RESPONSE?

Approximately 80% of patients who respond initially maintain a platelet count of about $50 \times 10^9/L$ if treatment is continued. The prevalence of sustained remission off treatment has yet to be established.



OTHER CONSIDERATIONS

Weekly blood tests until a dose of Romiplostim is established to keep the platelet count stable, and then transition to monthly blood tests or even less frequently.

Some patients taking romiplostim will be able to cease treatment and maintain a safe platelet count on no treatment.

If no response is seen using Romiplostim, switching to a different TPO-RA is recommended.

Romiplostim is currently available for chronic ITP patients.

REFERENCES

<https://itpaustralia.org.au/itp-in-children/>

<https://www.nplate.com/nplateforchildren>

<http://itpaustralia.org.au/wp-content/uploads/2024/10/2023-ANZCHOG-Paediatric-ITP-Treatment-Guidelines.pdf>

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