romiplostim (roe-mi-ploss-im)

**Classification**
Therapeutic: Antithrombocytopenic
Pharmacologic: Thrombopoietin receptor agonist

**Pregnancy Category C**

**Indications**
Treatment of thrombocytopenia associated with chronic immune (idiopathic) thrombocytopenic purpura that has not responded to corticosteroids, immunoglobulins, or splenectomy where there is risk of bleeding.

**Action**
Acts as thrombopoietin (TPO) receptor agonist. Therapeutic Effects: Improved platelet count with decreased sequelae of thrombocytopenia (bleeding).

**Pharmacokinetics**
Absorption: Well absorbed following subcutaneous administration.
Distribution: Binds to specific cellular receptors.
Metabolism and Excretion: Unknown.
Half-life: 1–34 days.

**TIME/ACTION PROFILE**

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<thead>
<tr>
<th>ROUTE</th>
<th>ONSET</th>
<th>PEAK</th>
<th>DURATION</th>
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<tbody>
<tr>
<td>Subcut</td>
<td>unknown</td>
<td>1 wk</td>
<td>2 wk</td>
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**Contraindications/Precautions**
- **Contraindicated in:** None noted.
- **Use Cautiously in:** Hepatic or renal impairment; Geri: Elderly patients may be more sensitive to effects, escalate dose cautiously, consider concurrent disease states, age-related organ function and drug therapy; OB: May cause fetal harm, enroll in registry; avoid use during lactation; Pedi: Safety not established.

**Adverse Reactions/Side Effects**
CNS: dizziness, insomnia, headache.
GI: abdominal pain, dyspepsia.
Hemat: bone marrow fibrosis, thrombosis/thromboembolism (dose related).
MS: extremity pain, myalgia, arthralgia, shoulder pain.
Neuro: paresthesia.
Misc: angioedema, hypersensitivity reactions.

**Interactions**
- **Drug-Drug:** Drugs affecting platelet function should be avoided.

**Route/Dosage**
**Subcut (Adults):** 1 mcg/kg weekly, by 1 mcg/kg weekly to achieve and maintain platelet count of ≥50 x 10⁹/L up to 10 mcg/kg.

**NURSING IMPLICATIONS**

**Assessment**
- Assess for bruising and bleeding throughout therapy.
- **Sub Test Considerations:** Monitor TTP, including platelet counts and peripheral blood smears, prior to, weekly until a stable platelet count (≥50 x 10⁹/L for 4 wk without dose adjustment) is achieved, and at least monthly thereafter. If platelet count is ≥50 x 10⁹/L, increase dose by 1 mcg/kg. If platelet count is ≥200 x 10⁹/L for 2 consecutive weeks, decrease dose by 1 mcg/kg. If platelet count is ≥400 x 10⁹/L, do not dose. Continue to assess platelet count weekly. When platelet count ≥200 x 10⁹/L, continue to complete dose decreased by 1 mcg/kg. Do not administer if platelet count ≥400 x 10⁹/L. Discontinue romiplostim if platelet count does not ≥75 x 10⁹/L in 2 wk following discontinuation. Excessive doses may increase risk of thrombolic/thromboembolic complications.
- If platelet counts decrease following initial response, assess for formation of neutralizing antibodies. May require submitting blood samples to Amgen (1-800-772-6436) for assay.

**Potential Nursing Diagnoses**
- Risk for injury (Indications)

**Implementation**
- Do not confuse romiplostim with romidepsin.
- Adjust dose based on platelet count. If platelet count is ≥50 x 10⁹/L, increase dose by 1 mcg/kg. If platelet count is ≥200 x 10⁹/L for 2 consecutive weeks, reduce dose by 1 mcg/kg. If platelet count is ≥400 x 10⁹/L, do not dose. Continue to assess platelet count weekly. At ≥400 x 10⁹/L, resume romiplostim at dose reduced by 1 mcg/kg.

+ Gastrointestinal: nausea, vomiting, diarrhea
+ Hematologic: thrombocytopenia
+ Musculoskeletal: back pain, joint pain
+ Other: constipation, headache

**Interactions**
- **Drug-Drug:** Drugs affecting platelet function should be avoided.

**Route/Dosage**
**Subcut (Adults):** 1 mcg/kg weekly, by 1 mcg/kg weekly to achieve and maintain platelet count of ≥50 x 10⁹/L up to 10 mcg/kg.
Subcut: Administer as a subcut injection once weekly. Diluent: Reconstitute 250 mcg vial with 0.72 mL and 500 mcg vial with 1.2 mL of preservative-free sterile Water for Injection. Concentration: 500 mcg/mL. Gently swirl vial to reconstitute; do not shake. Dissolution usually takes less than 2 min. Injection volume may be very small; use syringe with graduated tip to 0.01 mL. Solution is clear and colorless, do not administer solutions that are discolored or contain a precipitate. Protect solution from light. Reconstituted solution is stable at room temperature or if refrigerated for 24 hr. Discard unused portions of single-use vial. Do not administer more than one dose from each vial.

Romiplostim may be used with other therapies such as corticosteroids, danazol, azathioprine, immunoglobulin F and anti-D immunoglobulins.

Patient/Family Teaching

- Explain purpose of romiplostim to patient. Advise patient to read Medication Guide prior to initiation of therapy. If a dose is missed, contact health care professional to arrange for next dose as soon as possible.
- Instruct patient to notify health care professional of symptoms of any bruising or bleeding that occurs during therapy or of any side effects that are bothersome or do not go away.
- Advise patient to avoid situations or medications that may increase the risk of bleeding.
- Advise patient to notify health care professional if pregnancy is planned or suspected. Inform pregnant patients of potential risks of therapy and encourage enrollment in pregnancy registry by calling 1-800-77-AMGEN (1-800-772-6436).
- Emphasize the importance of repeated lab tests and that platelet count will be monitored weekly until dose is stable, then tested monthly. When romiplostim is discontinued, platelet count will be monitored for at least 2 weeks to check if platelet count drops too low.

Evaluation/Desired Outcomes

- Improved platelet count with decreased risk of bleeding. Discontinue if platelet count does not increase to a level sufficient to avoid clinically important bleeding after 4 to 6 weeks at maximum weekly dose.

Why was this drug prescribed for your patient?