Understanding & Mitigating Daratumumab Interference With Blood Compatibility Testing

DARZALEX® daratumumab concentrate for solution for infusion

DARZALEX®SC daratumumab subcutaneous

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Daratumumab Interference Mitigation Methods

REMEMBER

Daratumumab-treated patients may show pan-reactivity in Indirect Antiglobulin Test (IAT)

Daratumumab interference mitigation methods

Treat reagent RBCs with DTT or locally validated methods

OR

Genotype

ID CARD If available, refer to the patient's ID card for their blood type and antibody screen results conducted prior to initiation of daratumumab treatment.

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References

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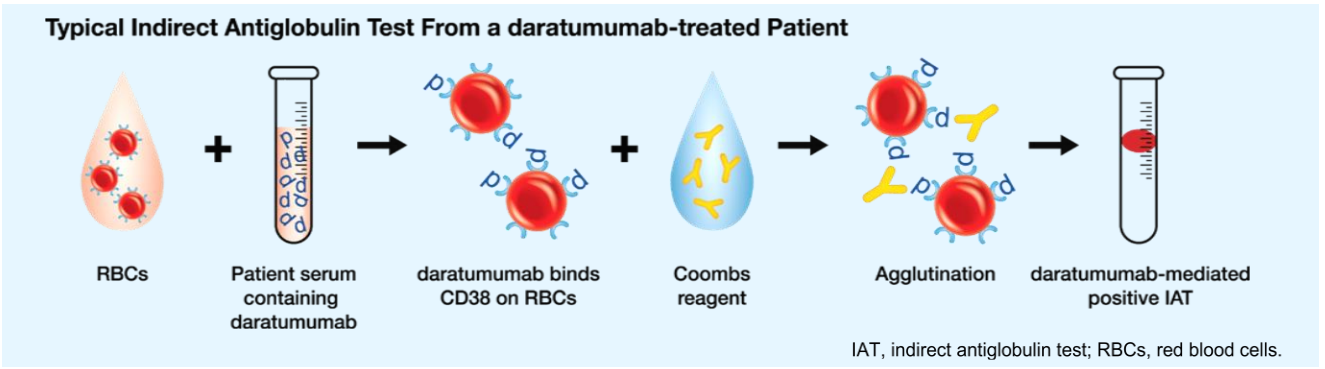
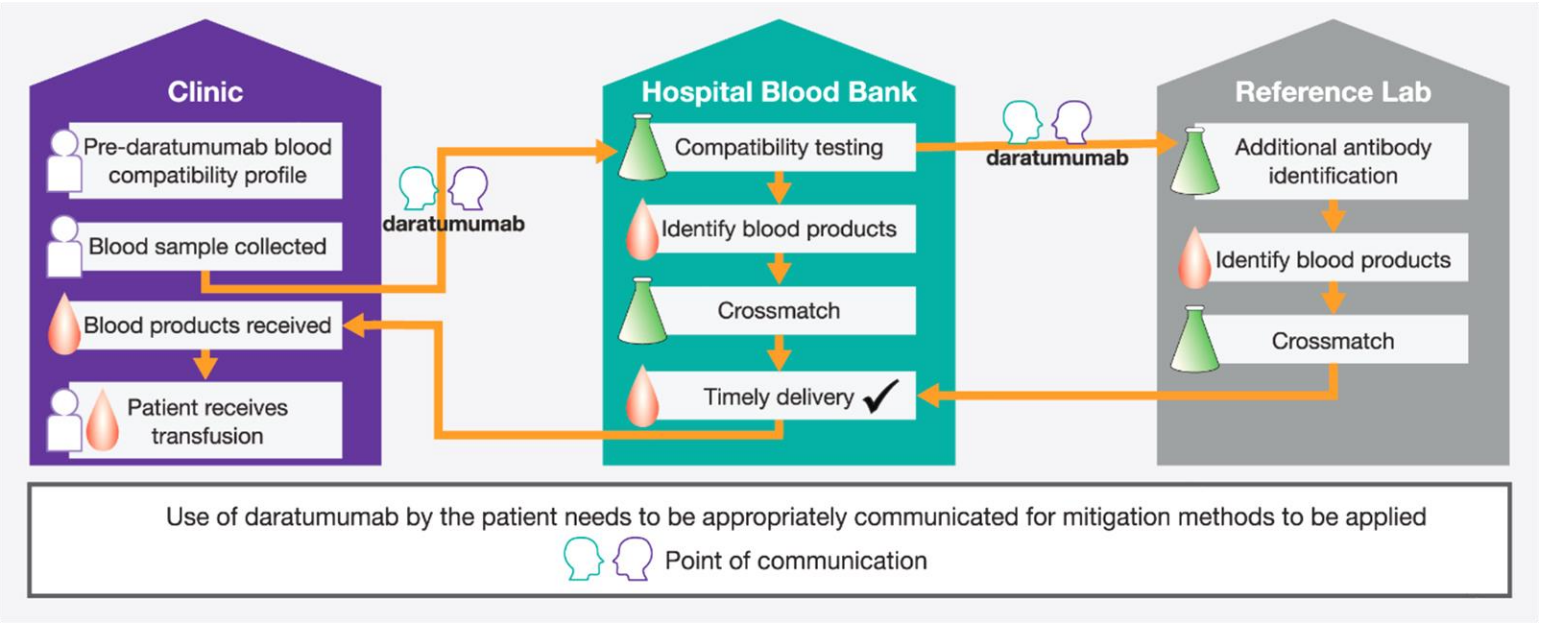
Daratumumab May Result in a Positive IAT Which May Persist for Up to 6 months After the Last Daratumumab Administration



- Daratumumab is a human monoclonal antibody for the treatment of multiple myeloma[1,2] or light-chain (AL) amyloidosis[2] *.
- Daratumumab binds to CD38,[3] a protein that is expressed at low levels on red blood cells (RBCs)[4-6].
- Daratumumab binding to RBCs may mask the detection of antibodies to minor antigens. This interferes with compatibility tests, including the antibody screening and crossmatching[3].

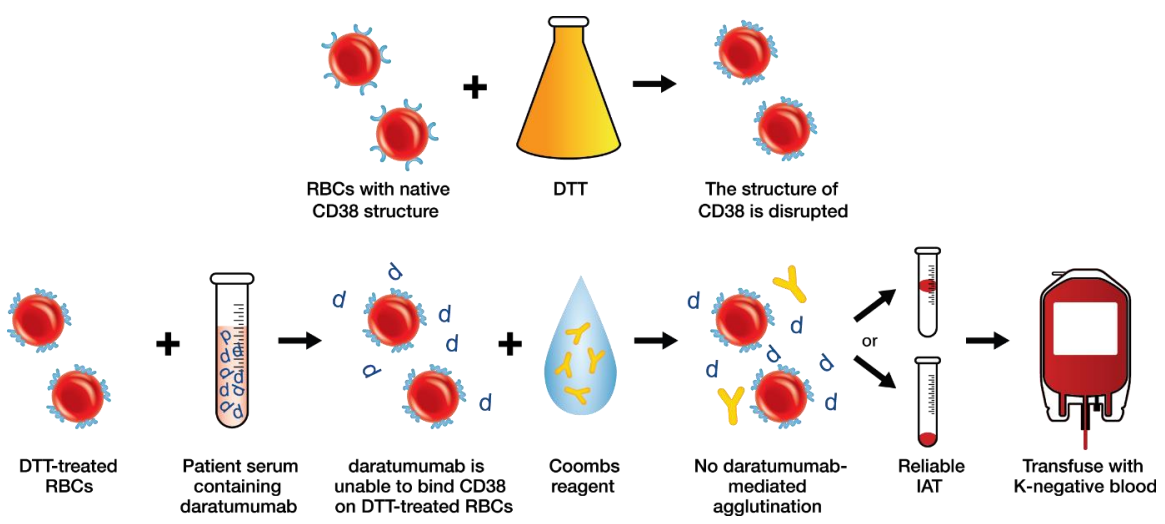
* DARZALEX® SC is an approved treatment for both multiple myeloma and AL amyloidosis to be given subcutaneously[2]. DARZALEX® for intravenous use (IV) is only indicated for the treatment of multiple myeloma[1].

Help Prevent Delays by Applying Mitigation Methods



- If steps are not taken to mitigate daratumumab interference, delays in the release of blood products for transfusion may occur.
- Blood products for transfusion can be identified for daratumumab-treated patients using protocols available in the literature[3,7] or by using genotyping[8].
- Mitigation methods should be used until pan-agglutination is no longer observed.

Treat Reagent RBCs With DTT



- Treat reagent RBCs with dithiothreitol (DTT) to disrupt daratumumab binding, thus allowing antibody screening or crossmatching to be performed; the protocol can be found in Chapuy et al[3].
- Blood products for transfusion were identified for daratumumab-treated patients, after using DTT-treated reagent RBCs for antibody screening[3].
- Since the Kell blood group system is also sensitive to DTT treatment,[9] K-negative units should be supplied after ruling out or identifying alloantibodies using DTT-treated RBCs.

Daratumumab Interference Is Clinically Manageable

- To date, no clinically significant haemolysis has been observed in patients receiving daratumumab, and no transfusion reactions have occurred in patients requiring transfusions (data on file).
- Daratumumab does not interfere with identification of ABO/RhD antigens[3].
- If an emergency transfusion is required, non-crossmatched, ABO/RhD-compatible RBCs can be given, per local blood bank practices[7].
- A patient's compatibility profile, determined prior to their first dose of daratumumab, is recorded on the patient's ID card.
- The identified risk of interference for blood typing might persist up to 6 months after the last administration of daratumumab. Hence, the patient should be advised to continue carrying the patient ID card until 6 months after the treatment has ended.

Additional Resources

For more information, please refer to the local approved package insert, which is available on Singapore Health Authority (HSA) website. Alternatively, please contact Johnson & Johnson International (Singapore) Pte. Ltd, 2 Science Park Drive, #07-13, Ascent, Singapore Science Park 1, Singapore 118222.

Darzalex IV SC Blood Bank Educational Material V2. This document has been approved by HSA on 04-FEB-2022.