Crossmatching Procedure

A blood cross match (BCM) is performed to detect serological incompatibility between donor and recipient prior to a blood transfusion.

Canine

Dogs will be blood typed and may be transfused without a BCM prior to their first transfusion as they are suspected to not have naturally occurring antibodies.

Reactions occurring in response to the first transfusion are uncommon, but in cases of suspected autoimmune disorders a crossmatch may be recommended.

Dogs that have received transfusions more than 4 to 7 days previously should be crossmatched before receiving additional transfusions.

Feline

It is considered necessary to perform a blood typing in every cat receiving a transfusion.

Crossmatching is usually recommended in cats as they have naturally occurring antibodies and have a greater potential to experience a reaction - even on their first transfusion.

Complications

A control BCM (recipient plasma + recipient cells) should always be performed because some recipients may have immune medicated hemolysis and/or agglutination that will interfere with results.
Crossmatching Procedure – Manual

Crossmatch kits are available and the instructions can be found with the kits.

If the result is questionable a manual crossmatch may be performed.

1. Collect one EDTA tube from each recipient and possible donor(s).
2. Centrifuge tube(s) at 1000 x 9 for 5 min. to separate plasma from red blood cells (RBCs).
3. Remove plasma from each sample with a clean pipette and transfer to clean, labeled glass or plastic tubes.
4. Wash RBCs 3 times with a normal saline solution; resuspend to make a 3-5% RBC suspension (1 drop RBC : 20 drops saline).
5. Prepare for each donor 3 tubes labeled with Major, Minor, and Recipient control.
6. Add to each tube 2 parts of plasma and 1 part of RBC suspension as follows:
   - Major BCM: recipient plasma + donor cells
   - Minor BCM: donor plasma + recipient cells
   - Recipient control: recipient plasma + recipient cells
7. Mix gently and incubate for 15 min. at room temperature.
10. Gently resuspend button of cells by tapping tube with a finger and examine for macroscopic agglutination.
11. If macroscopic agglutination is not observed, transfer a small amount onto a glass slide and examine for microscopic agglutination. Rouleaux is not an indication of incompatibility.