CROSSMATCH INTERPRETATION: Interpret reaction in Clear Top Reaction **(R)** Gel Tube (yellow-bordered label) using the Crossmatch Photo Identifier provided. Record results using report card provided.

POSITIVE CROSSMATCH indicates the Recipient is at risk for demonstrating a transfusion reaction.
DO NOT TRANSFUSE USING THIS DONOR

NEGATIVE CROSSMATCH indicates the Recipient is likely NOT at risk for demonstrating a transfusion reaction from the Donor.

Test results might be affected by the age of the cells used. Stored blood might exhibit a weaker reaction than that shown in the Photo Identifier.

IMPORTANT NOTES: CROSSMATCHING IS DONE IN ADDITION TO, AND DOES NOT REPLACE, BLOOD TYPING.
Transfusions involving incompatible BLOOD TYPES will result in the activation of alloantibodies which may cause life-threatening reactions, or the production of antibodies which may cause serious complications in subsequent transfusions. In addition, the lifespan of incompatible RBCs will be shortened, increasing the need for further transfusions.

If Oxyglobin® is in recipient blood, or in the event of severe hemolysis, this test is not recommended.

Storage: Shelf-life: 24 months. Store upright at room temperature until expiration date: DO NOT FREEZE.

Disposal: Dispose of all biological materials, pipettes and tubes in a biohazard container.

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Rev. 08/08/2014HCMAJ03US www.rapidvet.com

RapidVet®-H
Companion Animal Crossmatch Test
MAJOR (Donor Blood / Recipient Serum or Plasma)

For use on either canine or feline species

Description and Intended Use: Crossmatch identifies serological incompatibility between a donor and recipient. Performing a crossmatch is an essential procedure to be considered before most transfusions and in addition to blood typing. Crossmatch reveals incompatibilities between a donor and recipient that will not be evident from blood typing alone.

RapidVet-H Major Crossmatch is performed using donor red blood cells and recipient serum or plasma. The test will alert the veterinarian to the existence of antigens on donor red blood cells that correspond to antibodies, whether acquired or naturally occurring, present in the recipient serum or plasma. In an incompatible transfusion, these antibodies can cause a major, life-threatening reaction.

In dogs, if it can be determined with certainty that there has been no prior transfusion, a crossmatch need not be done. It is necessary to determine whether the dog is DEA 1.1 positive or negative. Tests for determining whether there are also antigens on the red cells for DEA 4, 5, 7 or 9 are not commercially available. New canine blood types are being discovered frequently, including DAL and others. There are no commercially available tests for these either.

If blood is used that is incompatible with any of these types (X+ blood transfused into an X− dog) in even the first transfusion, the viability of the transfused cells will decline rapidly, a second transfusion may be required within 4 to 5 days, and by then antibodies to the incompatible antigen will have formed.

If a second transfusion is ever needed, determining only that the blood of that donor and the recipient is DEA 1.1 compatible will **NOT** be sufficient. Antibodies in the recipient's serum to any other antigens on the red cell of the original donor may have formed. Only a crossmatch will determine if that has occurred.

Cats have naturally occurring antibodies to antigens not on their red cells. Thus cats with Type A blood have antibodies to Type B antigens and cats with Type B blood have antibodies to Type A antigens. In this species, a crossmatch should be performed prior to **every** transfusion. New feline red blood cell antigens are being discovered, including *Mik* and others. Cats lacking *Mik* antigens on their red cells will have *Mik* antibodies before **any** transfusion. Thus determining only the A or B blood type for compatibility is not sufficient. Only a crossmatch will uncover the problem.

Kit Contents: Instructions; Procedure Diagram; Photo Identifier; Report Cards; 3 Test Stands each containing 7 tubes and 3 pipette bags each containing 10 pipettes.

Samples Required:

Donor Sample: **0.1 ml** (100 µl) EDTA anticoagulated whole blood or whole blood sample segment from a unit of packed red blood cells, **OR 0.05 ml** (50 µl) packed red blood cells (pRBCs).

Recipient Sample: 1.0 ml serum or plasma obtained by centrifuging 2.0 ml whole blood.

Test Setup

For use with all tests, a Procedure Diagram and Photo Identifier are included in each kit box.

A. Remove: 1 test stand containing 7 tubes, 1pipette bag and 1 report card.

B. Write Donor name/ID on all seven (7) tubes.

C. Write Recipient name/ID on Yellow Top Reaction **(R)** Tube and Clear Top Reaction **(R)** Gel Tube (yellow-bordered label)

D. Insert Blue Top Blood Prep Tube upright into well provided in test stand.

Test Procedure [Follow bracketed numbers on Procedure Diagram]
Use a clean pipette for <u>every</u> step to prevent contamination.

[1] **PIPETTE** Donor Sample: **2 drops** (100 µl) whole blood **OR 1 drop** (50 µl) pRBCs to Blue Top Blood Prep Tube; cap tightly and gently invert several times to mix thoroughly. Place upright in test stand.

[2] **PIPETTE** 4 drops (200 µl) Recipient Serum or Plasma to Yellow Top Reaction **(R)** Tube.

From Blue Top Blood Prep Tube, using a clean pipette for <u>each</u> transfer:

[3] **TRANSFER** 2 drops (100 µl) to Yellow Top Reaction **(R)** Tube. Replace cap, tighten and gently invert several times to mix thoroughly.

[4] **TRANSFER** 2 drops (100 µl) to Green Top Negative **(-)** Control Tube. Replace cap, tighten and gently invert several times to mix thoroughly.

[5] **TRANSFER** 2 drops (100 µl) to Red Top Positive **(+)** Control Tube. Replace cap, tighten and gently invert several times to mix thoroughly.

[6] **INCUBATE:** Let all tubes stand for five (5) minutes at room temperature (20-25°C / 68-77°F).

[7] **TRANSFER** 1 drop (50 µl) from Yellow Top Reaction **(R)** Tube to Clear Top Reaction **(R)** Gel Tube (yellow-bordered label). Cap tightly.

[8] **TRANSFER** 1 drop (50 µl) from Green Top Negative **(-)** Control Tube to Clear Top Negative **(-)** Control Gel Tube (green-bordered label). Cap tightly.

[9] **TRANSFER** 1 drop (50 µl) from Red Top Positive **(+)** Control Tube to Clear Top Positive **(+)** Control Gel Tube (red-bordered label). Cap tightly.

[10] **PLACE** Gel Tubes in centrifuge and spin according to chart below.

Centrifuge**	Speed (rpm)	Time
Iris Processing Stat Spin™ MP	9800 (Urine setting)	90 seconds (45 secs run twice)
Clay Adams TRIAC™	3800 (Serum setting)	7 minutes
Clay Adams Analytical (0179)	3200	5 minutes
Adams™ Compact II	3200	7 minutes
Clay Adams READACRIT™	4000	5 minutes

****If you do not have one of the listed centrifuges, refer to rapidvet.com under "Downloads" tab for a more complete centrifuge list; or call toll-free in US and Canada: (800) 567- 4367; or (908) 782-3353**

Interpreting and Reporting Results

Use the Crossmatch Photo Identifier provided to interpret results in Clear Top Negative (-) and Positive **(+)** Control Gel Tubes.

NEGATIVE CONTROL: Clear Top Negative **(-)** Control Gel Tube (green-bordered label) should demonstrate a collection of red blood cells at the **bottom** of the gel column.

POSITIVE CONTROL: Clear Top Positive **(+)** Control Gel Tube (red-bordered label) should demonstrate an agglutination of red blood cells at the top of the gel column or a dispersion of red cells mid matrix and above.

IMPORTANT: If controls do not react as stated above DO NOT proceed with the interpretation of test.