

RapidVet[®]-H

Companion Animal Crossmatch Test

MAJOR (Donor Blood / Recipient Serum)

For use on either canine or feline species

Description and Intended Use: Major crossmatch will identify and alert the veterinarian to the existence of antigens on donor red blood cells corresponding to antibodies, whether acquired or naturally occurring, present in the recipient serum. Performing a crossmatch, in addition to determining the blood types of the animals, is an essential procedure to be considered before most transfusions. Crossmatching will show incompatibilities between the donor and recipient that will not be evident from blood typing alone.

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. Over 13 have been described. There are no commercially available tests for those 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. For cats as well, new blood types are being discovered frequently, including MIK and others. Over 12 have been described. Cats that do not have MIK antigens on their red cells will have MIK antibodies before **any** transfusion. Thus determining the A or B blood type for compatibility is not sufficient. Only a crossmatch will uncover the problem.

Samples Required:

COLLECT Donor Sample: 0.5ml EDTA anticoagulated whole blood or whole blood segment sample from previously collected packed RBC's.

COLLECT Recipient Sample: 1.0 ml serum obtained by centrifuging 2.0 ml whole blood in a serum tube.

Test Setup

- A. **REMOVE** one test stand containing 6 tubes, blue top tube, pipette bag and report card from kit.
- B. **WRITE** Donor name/ID on all seven (7) tubes provided.
- 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 Donor Blood Prep Tube upright into well provided in test stand.

Test Procedure [Follow bracketed numbers on diagram]

- [1] **ADD** 0.5 ml (10 drops) Donor Sample to Blue Top Donor Blood Prep Tube using clean pipette from kit; cap Blue Top Tube tightly and invert several times to mix thoroughly. Place upright in test stand.
- [2] **TRANSFER** 200 µl (4 drops) Recipient Serum to Yellow Top Reaction (**R**) Tube using a clean pipette.

From Blue Top Donor Blood Prep Tube:

- [3] **TRANSFER** 100 µl (2 drops) to Yellow Top Reaction (**R**) Tube using a clean pipette; cap Yellow Top Tube tightly and invert several times to mix thoroughly.
- [4] **TRANSFER** 100 µl (2 drops) to Green Top Negative (**-**) Control Tube using a clean pipette; cap Green Top Tube tightly and invert several times to mix thoroughly.
- [5] **TRANSFER** 100 µl (2 drops) to Red Top Positive (**+**) Control Tube using a clean pipette; cap Red Top Tube tightly and invert several times to mix thoroughly.
- [6] **INCUBATE:** Let all tubes stand for five (5) minutes at room temperature (20-27°C / 68-81°F). Then
- [7] **TRANSFER** 50 µl (1 drop) from Yellow Top Reaction (**R**) Tube to Clear Top Reaction (**R**) Gel Tube (yellow-bordered label) using a clean pipette. Cap tightly.

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

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

[10] **PLACE** Gel Tubes in centrifuge and spin according to the chart that follows.

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

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

Interpreting and Reporting Results

Interpret Clear Top Positive (+) Control and Negative (-) Control Gel Tubes using the Crossmatch Photo Identifier provided.

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 Positive (+) and Negative (-) controls do not react as stated above, DO NOT proceed with the interpretation of test.

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 in kit.

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

A **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, this test is not recommended.

In the event of severe hemolysis, this test is not recommended.

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

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

RapidVet is a registered trademark of
of **dms**laboratories, inc.
Manufactured under U.S. Patent # 7,449,329

dmslaboratories, inc.
2 Darts Mill Road
Flemington, NJ 08822 USA
Tel: (908) 782-3353
(800) 567-4367
Fax: (908) 782-0832
Web: rapidvet.com