

QUICK TEST  
FOR BLOOD TYPING  
IN CATS AND DOGS

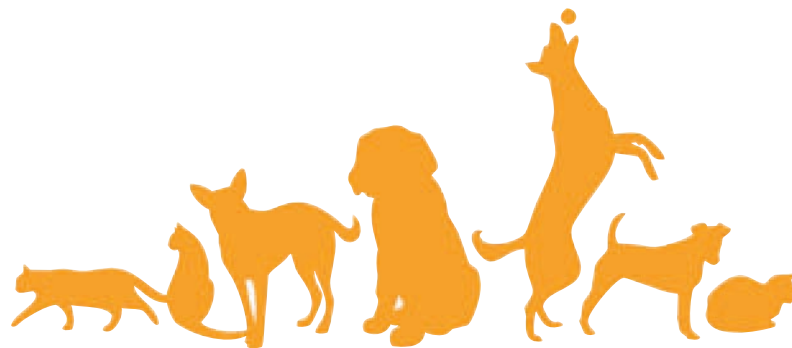


**Alvedia**  
Alice Veterinary Diagnostic

Following the example of human surgical and medical progress, achieved thanks to transfusion, progress in veterinary surgery and medicine is going to be achieved thanks to an effective and reliable Quick Test.

Determining blood types represents an essential process in order to ensure animals benefit from transfusion support. Nowadays, a dog or a cat has a significant probability of being transfused once or more in their lifetime. Basic blood typing is essential to perform these first and subsequent transfusions as safely as possible.

That's why academic centres have focused research on a better knowledge of blood typing in dogs and cats. **Alvedia** is proud to enable the veterinary community to benefit from its latest project by putting at their disposal typing systems based on brand new monoclonal antibodies. These systems have been trialed and are now used by veterinary universities and veterinary professionals.



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# BASIC IMMUNOHEMATOLOGY IN CATS AND DOGS

## The importance of blood typing

Transfusion has taken an increasingly important role in the life support of canine and feline patients. Thus, the need for quick and accurate blood typing has now been recognized in order to assure safe and efficient transfusion.

It is now essential to perform blood typing to save animal lives in case of:

- Traumatic shock
- Surgical procedures
- Iron deficiency
- Spleen injury
- Severe bleeding after diseases and shocks
- Some infectious diseases
- Hypoproteinemia
- Severe anemia
- Acute hemolysis syndrome
- Being a blood donor.

## Blood groups in cats and dogs

### In cats

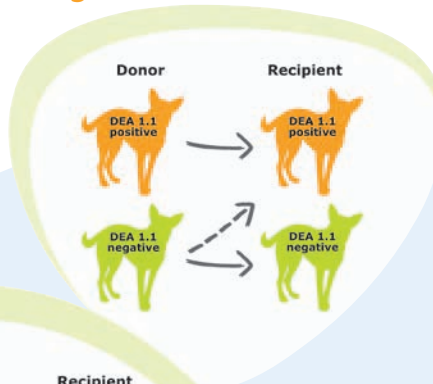
The only blood group system recognized is the AB system with the alleles A, B or AB. These alleles are highly immunogenic. The most common is the A group. There are breeds in which the percentage of B and AB groups are more represented. Recently, a new antigen has been described: the Mik antigen.

### In dogs

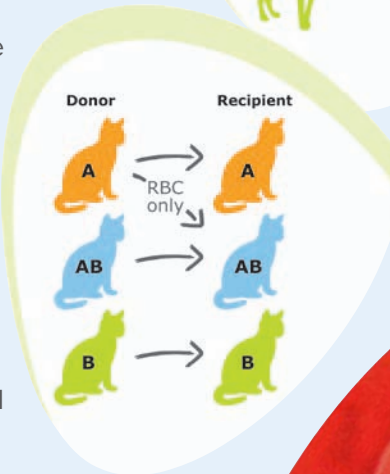
So far, there are more than a dozen blood groups described in dogs. The major and most immunogenic is the DEA 1.1 (Dog Erythrocyte Antigen) for which the dog can be either positive or negative. The others are DEA 7, DEA 3, DEA 4 and recently, a new antigen has been discovered in some Dalmatians: the DAL antigen.

## Blood group compatibility

In dogs, the determination of DEA 1.1 antigen is strongly recommended before any blood transfusion to avoid a potent alloantibody response against this antigen and to avoid acute haemolytic transfusion reaction.

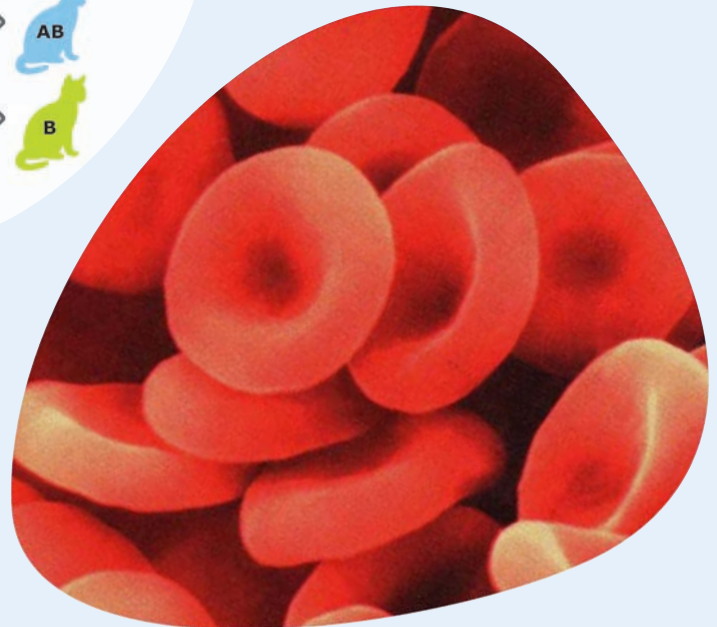


In cats, the presence of naturally occurring alloantibodies in type A and in type B cats requires that blood typing be performed prior to blood transfusion to avoid acute haemolytic transfusion reaction, as well as in breedings to prevent neonatal isoerythrolysis.



### Haemolytic disease (or neonatal isoerythrolysis) of the kitten

As type B cats have very strong naturally occurring anti-A alloantibodies, if a kitten of the A group receives alloantibodies through the colostrum from a B queen, these alloantibodies will provoke a serious life threatening reaction called "haemolytic disease".

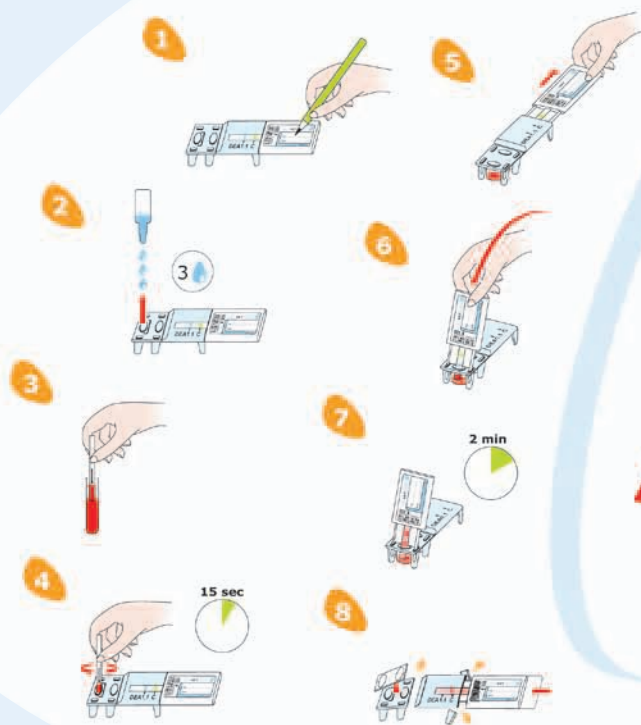


# QUICK TEST TECHNOLOGY IN DOGS

## Quick Test DEA1.1 for determination of blood group in dogs


This test enables to carry out a very easy and reliable determination of the dog's DEA 1.1 type per unit or at short notice.

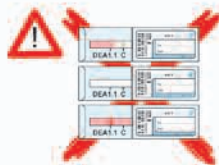
The system is based on the migration of red blood cells on a membrane, that has previously been specially treated, under the influence of a buffer flux moving along due to capillary action.



DEA 1.1 



DEA 1.1 



A monoclonal antibody specific to the DEA 1.1 antigen has been in the membrane. This antibody will retain positive DEA 1.1 red blood cells. It is characterized by the presence of a red band on the mid portion of this membrane (in front of "DEA1.1" as written on the kit). If whereas the test is negative.

The red control band, located on the upper part of the membrane (written "C" on the kit), has to appear, ensuring the test has run successfully. If not the test must be repeated.

1 drop of blood  
2 minutes



Quick  
Easy to use  
clean  
Accurate  
Archivable

## Interpretation of results in dogs



Dog with DEA1.1 + group



Dog with DEA1.1 - group



# QUICK TEST TECHNOLOGY IN CATS

## Quick Test A+B for determination of blood group in cats

This test enables to carry out a very easy and reliable determination of the cat's A and/or B types per unit or at short notice.

The system is based on the migration of red blood cells on a membrane, that has previously been specially treated, under the influence of a buffer flux moving along due to capillary action.

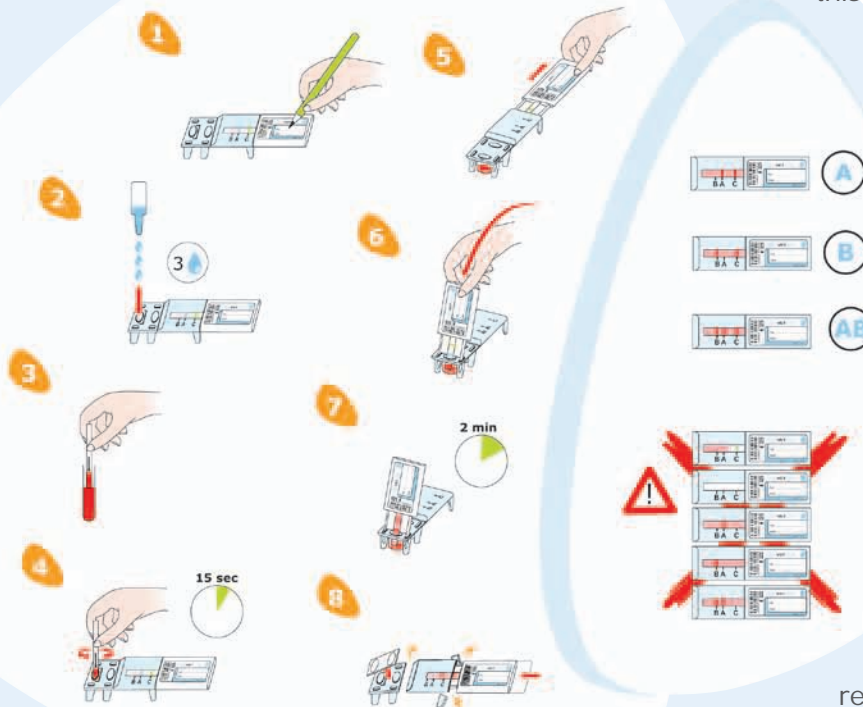
Two monoclonal antibodies specific to the A and B antigens has been incorporated in the membrane. This antibodies will retain positive A and/or B red blood cells. It is characterized by the presence of a red band on one or two portions of this strip.

If the red blood cells are A group, a red line will appear on the membrane, in front of the letter noted "A" on the Kit.

If the red blood cells are B group, a red line will appear on the membrane, in front of the letter noted "B" on the Kit.

If the red blood cells are AB groups, two red lines will appear on the membrane, in front of the letters "A" and "B" on the Kit.

The red control band, located on the upper part of the membrane (written "C" on the kit), has to appear, ensuring the test has run successfully. If not the test must be repeated.



1 drop of blood  
2 minutes



## Interpretation of results in cats



Cat with A group



Cat with B group



Cat with AB group

Quick  
Easy to use  
clean  
Accurate  
Archivable



# ADVANTAGES OF OUR TECHNOLOGY

The animal can have agglutination, the QTest will still be accurate

Case of autoagglutination reaction in dogs



Dog's red blood cells agglutination

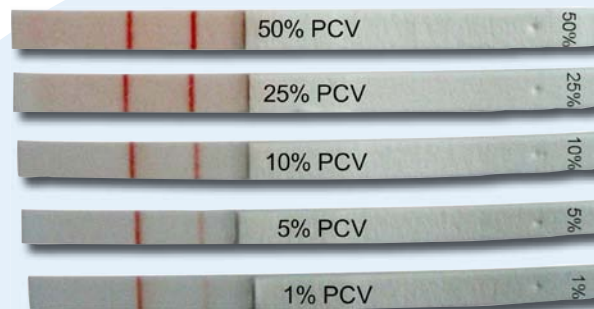
Agglutinated red blood cells are retained at the bottom of the membrane...



... whereas non agglutinated RBC will carry on migrating until the top of the membrane.

The animal can have an incredibly low PCV, the QTest will still be accurate

Case of anemia in cats : A group specimen



Example of a low Packed Cells Volumes (from 1% to 50%)

# SCIENTIFIC INFORMATION

## Comparison between the different blood typing methods

### In dogs

According to a recent publication of Pr Urs Giger et al., at Pennsylvania University, it was concluded that :

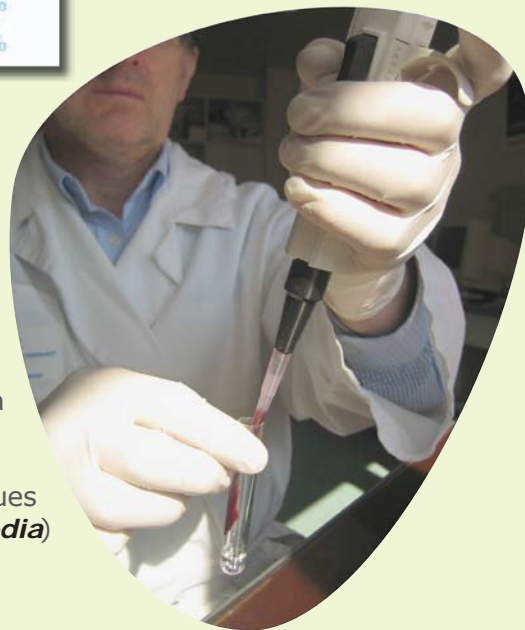
	Sensitivity	Specificity	Positive Predictive Value	Negative Predictive Value	Accuracy	
GEL (LAB technique)	100%	100%	100%	100%	100%	
CHROM (Alvedia)	88%	100%	100%	88%	93%	
CARD	(≥ 1+)	100%	75%	82%	100%	89%
	(≥ 2+)	94%	88%	90%	92%	91%

"The results of GEL and CHROM (**Alvedia**) are most easy to interpret and archive."

### In cats

According to a recent publication of Pr Urs Giger et al., at Pennsylvania University, it was concluded that :

"[...] currently available commercial laboratory and in-clinic techniques generally provide accurate typing results. The GEL and CHROM (**Alvedia**) methods made interpretation of results simple."



# QUICK TEST GOODIES

Keep the group !

With each test, Alvedia provides a blood typing card to be given to the owner of the animal and a blood typing form to be affixed in the medical record of the animal.



# CONTACT INFORMATION

**Alvedia** is a company specialized in the veterinary diagnostics.

It aims at providing health professionals with products and their operating instructions. It also develops new and innovative products in order to propose the best diagnostic tools for the veterinary community.

As regards the biological science, **Alvedia** has focused its activity on innovative and high-performances technologies. Thus its advisers' team analyses carefully the different fields of human and animal health, and spots the areas where a need in new technology can be felt.

**Alvedia** also coordinates research work in great academic centres in order to elaborate new products for health and diagnostic.

Furthermore, **Alvedia** provides support to its customers by training and advising them on the products supplied.

Contact us for further information  
or identify your nearest distributor

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