



ANIMAL BLOOD RESOURCES • INTERNATIONAL •

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Update on DEA 1 Antigen Testing

A recent study using flow cytometry has demonstrated that DEA 1.1, 1.2, 1.3 et al., is nothing more than different expressions of the same red cell antigen. This confirmed what Dr. Charles Stormont, who was instrumental in establishing the DEA system, always maintained. Both Stormont Labs and Animal Blood Bank (ABB) demonstrated repeatedly that DEA 1.2 antibody could not be produced using 1.2 cells due to their low antigenicity. In order to produce 1.2 antibodies, 1.1 cells must be used. These 1.2 antibodies, which were weak DEA 1 antibodies could be used to find reactions to weak antigens that the strong antibodies might destroy and miss.

With the advent of the various polyclonal kits, the results were said to find 1.1 only. Extensive testing and retesting in the last 20 years by ABB has demonstrated that these tests also accurately picked up all other variables of DEA 1. When the blood samples were sent to independent labs, we confirmed that we could determine 1.2 and 1.3 dogs just by interpreting the degree of agglutination on the card or the intensity of the line on the Alvedia kits.

Use of monoclonal antibodies for quick tests has now removed many of the variables surrounding the polyclonals. These monoclonals still express the different degrees of DEA 1 expression. Degree of agglutination reaction with the varying antibodies determined what we called the blood type. We believe due to our observations and recent work by others that Stormont was correct and DEA 1 is DEA 1, and the named variables are nothing more than a subjective determination of agglutination reaction, not a separate blood type.

In the interest of accuracy, we are now reporting the DEA antigen as positive or negative. While an antibody reaction from 1.2 positive or weak reactor in a 1.2 negative transfusion naïve dog has not been found, a reaction to weak reacting or 1.2 positive blood is possible in a previously sensitized 1.2 negative dog.

We believe this change will help eliminate some of the confusion that surrounds DEA 1 blood typing, as it is frequently believed that testing for strong antigen reactivity or DEA 1.1 is sufficient and dogs with weakly reacting antigens are incorrectly used as donors in DEA negative dogs.

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