

Sensitivity of Immuno-diffusion technique for determination of species of origin from dried blood stains

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ABSTRACT

Blood as evidence gives many clues to forensic investigation. Determining origin of species from blood is one of the primary concern to proceed for individualization, because it may lose its integrity quickly. The paper demonstrates the sensitivity of absorption elution technique in adjudging the species of origin from dried blood stains on different surfaces over 5 years of time period. Absorption-Elution test was found most successful in cloth substrate and showed effectiveness with impact of years during examination.

I. Introduction

The major role of forensic scientist and forensic laboratory is to establish an identity, which may be of a person or a poisonous substance, or very often of a common source of one or more substances. Blood as a physical evidence helps in many cases like disputed paternity & maternity cases, adultery affiliation proceedings, inheritance disputes, immigration issues, based on family relationship, interchange of infants in the hospitals; identity of the source of blood and blood stains in crime such as violence, rape, murder [1-2].

Even if blood is detected, it's not directly bound that it came from a person's being. To work out whether or not blood comes from a human being or an animal one typically needs an antibody check that involves reacting the blood sample with anti-human antibodies. The blood sample with anti-human antibodies, these are market available and are raised in

rabbits [3-4]. The blood samples and the antisera (anti-human antibodies) are placed in wells punched into an agar gel that's contact a glass dish or slide. The samples move towards each other through the agar by diffusion or the method is accelerated by an electric current. Formation of white line called the precipitin line is the point at which the two samples meet this can be indicative of an association interaction between the antigens within the blood and antibodies within the rabbit antisera and so the blood is human. If no line forms suggests there's a suspicion that the blood belongs to an animal, then the procedure can be repeated using antibodies raised against the appropriate animal sera [5-7].

Once biological evidence has been identified, it is necessary to determine whether or not it is of human origin; and if of non-human origin, then to what species it belongs. The species specific proteins in the bloodstains or other body tissues may be identified with the help of species specific antibodies.

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