

**COMPARISON OF SENSITIVITY AND SPECIFICITY OF STAINS
USED FOR IDENTIFICATION OF RABIES INCLUSION BODIES
(NEGRI BODIES) IN LIGHT MICROSCOPY**

T.A.C. Pavithrani*, K.L.T.D. Jayawardene and G.S.P. De S. Gunawardena

*¹Department of Medical Laboratory Sciences, Faculty of Allied Health Science,
University of Peradeniya, Sri Lanka*

*²Department of Veterinary Pathobiology, Faculty of Veterinary Medicine and Animal
Science, University of Peradeniya, Sri Lanka*

**pavithrani.charitha@gmail.com*

Rabies is one of the most feared zoonotic diseases in the world. The infection is confirmed by the presence of intracytoplasmic inclusion bodies known as Negri bodies. Special stains are used in identification of Negri bodies in histology. General objective of this research was, to assess the sensitivity and specificity of different special staining methods in identification of Negri bodies by using light microscope. The study compared five staining techniques, namely sellers staining, H&E staining, Massignani-Malferrari method and Schleichstein's Method in impression smears as well as in paraffin embedded tissue sections. A total of 20 rabies positive & negative brain samples were obtained from the Faculty of Veterinary Medicine and Animal Sciences and each brain tissue was examined by using above staining techniques. Sensitivity and specificity of each staining technique was calculated with references to florescent antibody test results that act as gold standard test for Negri body detection. Overall sensitivity and specificity of the Sellers staining method for identification of Negri bodies in impression smears was 96.15% and 92.85% and it was 51.9% and 89.28% for H&E staining. Sensitivity and Specificity of the H&E staining method for Paraffin Embedded Tissue Sections was 53.84% and 92.85% and it was 98.07% and 96.42% for Massignani-Malferrari staining method. According to results Massignani-Malferrari method is the best staining method for identification of Negri bodies in Paraffin embedded tissue sections using the light microscope since it has high sensitivity and specificity. In this method, red colour Negri bodies can identify very easily against fade back ground. The cost of the Massignani-Malferrari method is nearly similar to H&E staining method. According to this study Sellers staining method is the best staining method for impression smears. Massignani-Malferrari Method & Schleichstein's Method is not suitable for impression smears. H&E staining was done using several new procedures. Negri bodies only could be identified in only one procedure. But the sensitivity and the specificity of the staining method was lower than the sellers method. Since Fluorescent Antibody Test (FAT) is high cost in event, use of Sellers staining method in impression smears & use of Massignani-Malferrari method for Paraffin embedded tissue sections is cost effective in laboratories with minimum facilities.