

MOLECULAR CHARACTERIZATION OF RABIES VIRUS



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**DEPARTMENT OF ANIMAL BIOTECHNOLOGY
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CERTIFICATE

This is to certify that the thesis entitled "**MOLECULAR CHARACTERIZATION OF RABIES VIRUS**" submitted in part fulfillment of the requirements for the degree of **MASTER OF VETERINARY SCIENCE IN ANIMAL BIOTECHNOLOGY** to the **Tamil Nadu Veterinary and Animal Sciences University**, Chennai-600 007 is a record of bonafide research work carried out by **Dr.V.GANESH** under my supervision and guidance and that no part of this thesis has been submitted to the award of any other degree, diploma, fellowship or other similar titles or prizes and that the work has not been published in part or full in any scientific or popular journal or magazine.

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ABSTRACT

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An attempt was made in this study to isolate rabies virus in murine neuroblastoma cell line and to characterise the virus by monoclonal antibodies and nucleic acid hybridisation assay. Ninety brain samples suspected of rabies were obtained from field cases. Direct fluorescent antibody test and monoclonal antibody screening revealed that sixty four isolates belonged to the classical rabies group (serotype 1). All the sixty four isolates were subjected to five regular serial passages in murine neuroblastoma cells and the presence of virus in these cells was confirmed by fluorescent antibody technique.

Polymerase chain reaction amplification of N (nucleoprotein) gene (central conserved region) carried out for 3 isolates, with the N1-N2 primer set, produced the specific amplified product of 443 base pairs. Dot blot hybridization with rabies N gene specific probe of 443 base pairs detected viral specific nucleic acid in all but one isolate by both colorimetric and chemiluminescent detection assays.

Keywords: Rabies virus-Molecular characterization-Monoclonal antibody-Polymerase chain reaction-dot blot hybridization.