Identification and Characterization of 18S rRNA Gene of Demodex Canis From the Dog Population of Mizoram, India

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Abstract : Canine demodicosis is a common parasitic condition which involves dog skin. Demodicosis in dogs is due the prominent growth of Demodex. Out of various canine Demodex spp., Demodex canis is the most often involved species. Canine demodicosis can occur as either a localized or generalized form of demodicosis severely affect the dogs and in non-treated dogs may cause death. This study was planned with the aim to screen and characterize the 18S rRNA gene of isolated Demodex canis. A total of 1200 dogs were screened during this study period. The skin scrapings of all the suspected dogs were examined under a microscope at 100X magnification for the presence of Demodex canis. The skin scrapings positive for Demodex canis were examined using PCR for confirmation. A total of 35 dogs were confirmed a positive result for D. canis based on 18S rRNA gene amplification by PCR. Further, the 18S rRNA gene of isolated Demodex canis was cloned and sequenced for genome analysis. On the sequence analysis, it was found that isolated sequence (GenBank Accession No. MK177513) had close similarity (99.7%) to that of D. canis genotype of China (Accession No. MG372254).

Keywords : PCR, phylogenetic analysis, cloning and sequening, Demodex canis
Conference Title : ICASVM 2024 : International Conference on Animal Science and Veterinary Medicine
Conference Location : London, United Kingdom
Conference Dates : January 15-16, 2024