

## Study of PCR Pattern in Two VNTR (4 And 7) in Three Serovares of *Leptospira* (Vaccinal and Pathogenic)

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**Background & Objectives:** Leptospirosis is an infectious disease caused by spirochetes belonging to the genus *Leptospira* is an important zoonotic disease with worldwide distribution. Now adays Leptospirosis emerged as a globally important infectious disease in tropical regions. Rapid identification is necessary for treatment. MLVA is appropriate, rapid and carefully Methods for typing of serovares. Application of MLVA Methods for rapid identification of *Leptospira* serovars. The present study was carried out to set up of VNTR technique for the genotyping of vaccinal and pathogenic *Leptospira* serovars using VNTR 4 and 7 patterns.

**Methods:** In the present work, bacterial cultures from 2 pathogenic (*Leptospira automnalis* and *Leptospira Serjae serjae*) and 1 vaccinal serovars (*L. conicola*) which stored in leptospira reference laboratory of Razi institute in karaj were prepared in EMJH medium. Genomic DNA were isolated using the phenol-chloroform Methods. PCR was performed with the primers for loci VNTR4, VNTR7. Analysis of the loci VNTR4, VNTR7 proposed for identifications of 3 vaccinal and pathogenic serovares. The amplified samples were electrophoresed in 1.5 % agarose gels in buffer TBE.

**Results:** PCR analysis of the polymorphism of two representative VNTR loci (VNTR7, VNTR4) was performed. PCR products in all serovares with both loci were seen. The sizes of the amplified products of VNTR4 in *Leptospira. Automnalis* 570bp, in *Leptospira Serjae serjae* is 550bp and in *L. conicola* is 530bp. On the other hand the amplified size of VNTR7 in *Leptospira automnalis* is 700bp, in *Leptospira Serjae serjae* is 770bp and in *L. conicola* is 640bp.

**Conclusion:** MLVA has proved a powerful tool for identifying *L. introgans* serovars. We simply showed differentiation between serovares by VNTR loci. Both loci with range of polymorphism is known as good marker for identification of serovares but VNTR 7 is better for differentiations.

**Keywords:** *Leptospira* Serovares; MLVA Methods; VNTR4 Locus; VNTR7 Locus