

A 1.3 kb Satellite DNA from *Bubalus bubalis* not Conserved Evolutionarily is Transcribed

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A 1.3 kb satellite DNA from a size defined genomic library of mammal *Bubalus bubalis* was cloned and sequenced. The clone pSB1 is AT rich with 447 A (33.6%), 262 C (19.7%), 240 G (19.0%) and 383 T (28.8%). There were about 1400 copies of contig in the bubaline genome but it did not uncover allele length variation when used as probe in conjunction with a number of restriction enzymes. The contig pSB1 is not conserved evolutionarily and cross hybridizes only with the Bovidae family. A set of primers from 5' (nt 422 to 441) and 3' (nt 962 to 947) deduced from the clone used for PCR amplification with four members of the Bovidae family gave the expected 530 bp band of equal intensity indicating a similar number of copies in all the four species namely *Bos indicus*, *Capra hircus*, *Ovis aries* and *Bubalus bubalis*. Expression studies with pSB1 following slot-blot hybridization with total RNA isolated from ovary, testes, kidney, lung and spleen revealed varying signal intensities in all the tissues with a most prominent signal in spleen but a faint one in ovary. Further sequence analysis revealed the presence of several eukaryotic transcriptional elements such as NF-E1, Poly-A signal, lariat consensus sequences, and CTF/NF1 binding sites. Blast search showed 90% sequence similarity with the reverse transcriptase gene of *Bos taurus* and sequences from nt 283 to 636 within the contig showed highly conserved reverse transcriptase like signatures along with N-glycosylation and protein kinase C phosphorylation sites. From the data we conclude that the pSB1 representing satellite DNA is associated with transcribing sequences. The prospect of identifying functional genes linked with the satellite fraction in higher vertebrates is discussed.

Key words: *Bubalus bubalis*, Satellite DNA, Bovidae