

Novel Alu-type repeat in artiodactyls

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W. AGTGAAGTCGCTCAGTCGTGTCTGACTC-TTAGCGACCCCATGGACTGCAGCCTACCAGGC-TCC
 1.-CAA-TTCAGTTACAGTCACTCAGTCGTGTCCACTCCTTTGCACCCCATGAATCATAGTGCGCCAAGCCTCCCTGTC 76
 2.TTAGGTTACAGTCACTCAGTCGTGTCCGACTC-TTTGCGACCCCATGAATCACAGCAGCCAGGCCCTCCCTGTC 77
 3.TTCTGTTCAGTCCAGTG6CTCAGTTGTGTACAATTC-TTTGCACCCCATGGACTGCAGCATGCCAGGCTTCCCTGTC 77

1.CATCACCACTCCCGACTCTAGAGGATCCCGGAGTTCACTCAGACTCAGCTCCATTGAGTCAGTGATGCCATCCAGC 154
 2.CATCTCC-----TCCCGGAGTTCACCCACGTCACGTCATCGAGTCGGTGATGCCATCCAGC 135
 3.CATCAC-----AACTCCTGGAGTTGCTCAAATTCATGCCCATGAGTTGGTGATGCCATTCAC 138

1.CATCTCATCCTCTGTGATCCCTTCTCCTGCCCCAATCCCTCCAGCATCAGAGTCTTTTCCATGAGTCACT 232
 2.CATCTCATCCTCTGTGTCCTCCCTTTTCTCCTGCCCCAATCCCTCCAGCATCAGGGTCTTTTCCAGTCACT 213
 3.CATCTCATCCTCTGTGATCCCTTCTC-T--TGCTTCATCTTTCCAGCATCAGGGTCTTTTCCATGAGTCACT 213

1.CTTCCGATGAGGTGGCCAAAGTATTGGAGTTTCACTTTAGCATCTTCTTCCAAAGAAATCCC-AGGGCTGATCTC 309
 2.CTTACATGAGGTGGCCAAAGTACTGGAGTTTCACTTTAGCATCTTCTTCCAAACACACCCAGGGCTTATCTC 291
 3.CTTACATCAGGTGTCAAAGTATTGGAGTTTCACTTTAGCATCTTCTTCCAAAGAAATCCC-AGGACTAATATC 290

1.CTTCAGATGGA
 2.CTTTAGATGGACTGGTTGGATCTCCCTGCAGTCCAGGGGCTCGCAAGAAATCTTCTCCACACCACAGTTCRAAAGC 369
 3.CTTAGGTTGATTTGATCTCCTTGCAGTCCAGGGACTCTCAGGAGTCTTCTCCACATCAGTTCRAAAGC 368

2.ATCAATCTTCGGCACTCAGCTTTCTTCACTCCACTCTCACATCCGATACACACTGGAAAAACCATAGCCTT 447
 3.ATCAATCTTCAGCGGTCACTTTCTTCACTCCACTCTCACATCCACATCAGTACTGGAAAAACCATAGCCTT 446

2.GACTAGACGGACCTTTGTTGGAA-CGTATGTCTCTGCTTTTCAATATGCTATCTAGGTTGGTCATAGCTTTCTTCC 524
 3.GACTAGATGGACATTTGTTGATAAAGTAGTGTCTGCTTTTAAATATGCTGTCTAGATTTGGTATAGCTTTCTTCC 524

2.AAGGAGTAGCA
 3.AAGGAGCAGCATC

Sequence 1 is an insertion in a cow globin pseudogene (1). Sequence 2 is from a region 7 kb 5' to the cow fetal globin gene. Sequence 3 is from a region 1 kb 3' to the cow fetal globin gene. Using the numbering of sequence 2, the region from #220 to #300 is homologous to the 5' flanking region of the cow parathyroid hormone gene (2). The sequence from #227 to #490 is homologous to 3' flanking regions of goat globin pseudogenes (3). A probe from #246 to #424 was used to scan the cow beta globin locus, and in dot blots of genomic cow DNA. The results (not shown) indicate at least 100,000 copies in the cow genome, including at least 5 other copies in the cow beta globin locus.

Because of its copy number and interspersed nature, this sequence probably represents a distinct Alu-type repetitive sequence in artiodactyl genomes. It shares limited homology with previously described (4) artiodactyl Alu-type DNA in the region #1 to #75 (sequence labeled W in the figure). The remainders of the two sequence families are not homologous. I propose that this new sequence family be called art2.

1. Brunner, A.M. et al. (1986) *Biochemistry* **25**:5028-5035. 2. Weaver, C.A. et al. (1984) *Gene* **28**:319-329. 3. Cleary, M.L. et al. (1981) *Cell* **26**:181-190. 4. Watanabe, Y., et al. (1982) *Nuc. Acids Res.* **10**:1459-1469.