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**Nucleotide sequence of the 5S RNA gene and flanking regions interspersed with histone genes in *Artemia***


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**SEQUENCE ORIGIN:**

A lambda phage library of genomic DNA fragments from the brine shrimp, *Artemia*, was constructed and recombinants containing histone genes were isolated by screening with a *Drosophila* histone gene plasmid. All such isolates hybridize with *Artemia* 5S ribosomal RNA as well as with histone genes (1). The 5S region from one such isolate was sub-cloned into bacteriophage M13 and the sequence was determined by the dideoxy method.

10	20	30	40	50	60
TCTAG	AGBGA	GAAGG	TGAGG	AGGTG	GBTAC
70	80	90	100	110	120
CTGTA	GACCC	ATCCC	TGAAA	GTTTC	ATTTT
130	140	150	160	170	180
AAGTC	AATTC	ACTAG	AATTT	TACCA	AAACA
190	200	210	220	230	240
TATTT	GTCTA	CTAAA	AACCT	TGTTT	CACGA
250	260	270	280	290	300
BTGTT	TGGAC	CAACA	ACTAT	TTTGT	TACAA
310	320	330	340	350	360
GAAAG	TACCC	AGTCT	CGTCA	GATCC	TGGAA
370	380	390	400	410	420
GGATG	GGTGA	CGGCC	TGGGA	ACACC	GGGTG
430	440	450	460	470	480
TTTCT	TATAT	ATATA	TTTAT	ATATT	ATAAT
490	500	510	520	530	540
AACAA	ACTGC	TTTCC	TTATT	CTAAT	AGCGC
550	560	570	580	590	600
GAAAA	ACAGG	AAGAG	ACTAA	GTTAC	ATCTC

**COMMENTS:**

This region lies between histone genes H1 and H2B and contains a 120 base sequence synonymous with the sequence of *Artemia* 5S RNA (2). The 5S sequence underlined above, includes a promoter region with the guanine residue spacing implicated in 5S gene promoter function (3). The flanking regions contain both direct and inverted repeats of several different 5-6 base sequences, suggesting possible transposition of the 5S gene into the histone gene cluster early in the evolution of crustacea. *Artemia* contains approximately 100 copies of the histone +5S gene repeat unit, and no other 5S genes (4).

**REFERENCES;**

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