

Nucleotide sequence of the structural genes for the mitochondrial asp, lys, ser-tRNAs from chickenYan-Hwa Wu Lee*, Li-Ling Liaw, Tsai Tzung Yung and Szecheng J. Lo¹Institute of Biochemistry and ¹Graduate Program of Microbiology and Immunology, National Yang-Ming Medical College, Taipei, Taiwan 11221, China

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A 2.3-kb HindIII fragment of the mitochondrial genome (mtDNA) of chicken liver encoding tRNA(asp), tRNA(lys) and tRNA(ser) in addition to the whole cytochrome C oxidase subunit II (COII) gene, was cloned (1). The gene arrangement is virtually identical to those found in the other vertebrate mtDNA : the tRNA(asp) and tRNA(lys) are positioned at the upstream and downstream of the COII gene respectively, while tRNA(ser) is transcribed from the opposite strand (2). The genes show good homology (asp-64 %, lys-56 %, ser-64 %) to the equivalent tRNA genes from human (3).

tRNA(asp).

GAGACCTAGTAAACCAATTACATAGACCTGTCAAGACTAAATCACAGGTGCAAACCCGTACATCTCA

tRNA(lys).

CATTAAGAACGCTATGCACCAGCAGCTAGCCTTTAAGCTAGAGAGAGGGGACACCCTCCCCCTTAATGA

tRNA(ser).

AAGAAAAGAACATTAAGTGGTTGATGCGGTTGGCTTGAAACCAACATGTGAGGGTTCGATTCCCTTCCTT
TCTTG

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References:

1. Lee, Y.-H. W., Liaw, L.L., Tsai, T. Y., Wei, Y.-H., and S.J. Lo (1989) Biochem. International, in press.
2. Clayton, D.A. (1984) Ann. Rev. Biochem. 53: 573-594.
3. Anderson, S., Bankier, A.T., Barrell, B.G., de Bruijn, M.H.L., Coulson, A.R., Drouin, J., Eperon, I.C., Nierlich, D.P., Roe, B.A., Sanger, F., Schreier, P.H., Smith, A.J.H., Staden, R. and Young, I.G. (1981) Nature 290: 457-465.