

### **tRNA ancestral sequences**

>Ala Ancestor

AGCTCATGAGACGACACTTGCACTGCGGAGTGACCGCTA

>Arg ancestor

GTAGCAGCGGGAGCGGCGTTAAATCCGGCCGGCC

>Asn ancestor

GCTGTAGCTGGAAGATTCGGCTGTAAACCGAATGGGTAGGTTCGAATCCTACGGCGA

>Asp ancestor

GAGTTCAGGAGAATACGCCTGTCCGCAGGTCCGGGTTGAGTCCCTCCGGACC

>Cys ancestor

GGGGTATAGCTCAGGAGATTGACTGCAGATCCGGTTCAAATCCGGGTGCCCC

>Gln ancestor

AGCCAGAGCCCGGACTTTGACTCCGGCGTTTGAATCCTGCCATCCCA

>Glu ancestor

CCCGTTCGTAGGGGCACCGCCCTTTCAAGGCGGTGGTGAATCTACGGGAT

>Gly ancestor

CAGATAAGTTCAGACATAACTTGCCAAGGTCGTTTCGATTCGTTCTGC

>His ancestor

GCCGCGGTAGTGTAGCACATCAGATTGTGGCCCGGGTTCGAATCCCGGCCGCGGC

>Ile ancestor

GCCGCTCAGGAACTCGGGCTAATACGGGTTGACCCCCCT

>Leu ancestor

GGCGAGGCCGGATTAAGCGTGGTCGATCCCACCGCTGCC

>Lys ancestor

GGGCCCCGTAGCTCGGCAGCGCTTGGCTTTTACCGG

>Met ancestor

GTGCTCGGGCCGGGCTCATAACCGGGAGTGCGGTTCGAATCCCGCCGGCGCC

>Phe ancestor

GGTAGTCAGGGAGCGCCGGACTGAAGCCGGTTCAAATCCGGGCCGCGG

>Pro ancestor

GGGTGTAGCGCAGGCACCTGCTTTGGGAGGGGGGCGTGGTTCAAATCCCGCCACCCCG

>Sel ancestor

GGGCGCCCGGTTTCAAACCGGTGGTCCAGTGGTTCGACTCCCCT

>Ser ancestor

GGCTGGACTGAACGAATCCCCGACA

>Thr ancestor

AGTGGTGGGCTGGGCCGTACCAGATGGATCGAAGCCATCT

>Trp ancestor

CGTGGCTGAGCCGGGCTCCAGTTGGGTTCAAATCCCACCGGCCCC

>Tyr ancestor

CGGTAGCTCAGGGGACTGTAGGTGGGGGTTCAATC

>Val ancestor

GTTTAGGATCACGTCCCTAACAGCAGAAGGTCCTTGAAGGGTGAACC